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General Scientific

THE DIAGNOSIS OF ECTOPIC GESTATION.

ALBERT M. JUDD, M.D., F.A.C.S.,

GYNECOLOGIST TO THE KINGS COUNTY, JEWISH, LONG ISLAND COLLEGE, AND EAST N. Y. AND BROWNSVILLE HOSPITALS; CONSULTING GYNECOLOGIST TO ST. JOSEPH'S (FAR ROCKAWAY) HOSPITAL, SWEDISH HOSPITAL, AND NEW YORK DISPENSARY; CONSULTING OBSTETRICIAN TO CONEY ISLAND HOSPITAL AND EASTERN DISTRICT HOSPITAL AND DISPENSARY.

Brooklyn, N. Y.

In this paper the author has attempted to so correlate and systematize the symptomatology of ectopic gestation as to render the facts presented of greatest value to the general practitioner upon whose shoulders rests the responsibility of the outcome of these cases as they are practically all seen by him first. During the last decade the real doctor, the general practitioner, has arisen to his responsibilities as attested by the fact that now, much more frequently than formerly, these cases come to those of us doing special work already diagnosed or at least suspected. After having gone thus far and seeing that the case falls into proper hands for treatment his responsibility ceases. The subject of treatment presents but few differences, mainly those of when to operate in cases with low blood pressure, and such arguments interest only special men and societies. Both sides make mistakes both ways. The question of etiology rests upon theory alone and based upon what we have been taught as to the meeting place of ovum and spermatozoa in the tube. It is only fair to state that there are those who claim that the union of the two factors necessary for conception elsewhere than in the uterine cavity is accidental, otherwise, owing to the anatomy of the parts and the known facts that the narrowest portion normally of the tubal lumen is at the ostium uteri, taken together with the rapid growth of the impregnated ovum, intra-uterine impregnation would be exceptional.

The pathology is well understood by all, there being three types, unruptured tubal, ruptured tubal and tubal abortion. Of the ruptured tubal type, you may have an intra or extra-peritoneal rupture, the symptomatology depending upon the location of the rupture and the amount of bleeding.

The symptoms developed by tubal abortion depend of course upon whether it occurs early or late and also upon the amount of hemorrhage. The subsequent history of all types depends logically upon whether or not there is a death of the fetus or a continued development in its new location. It is easy enough to arrive at a conclusion in the tragic cases where you have your primary agonizing pain due to the rupture, followed immediately by the symptoms of shock and hemorrhage, but here is the crux of the whole situation so far as the interests of the patient are concerned.

An early diagnosis is essential. The author feels that with a properly taken and properly analyzed history a diagnosis should be made in 90 per cent of the cases and will endeavor to give in detail the type of history the physician should have and tell where he has made his mistakes.

Harmonizing laboratory findings and physical signs are of aid, but the writer has been misled more often by his physical findings than by any other factor. The exquisite tenderness on passive motion of the cervix so often spoken of will not logically be found in those cases seen so early that a localized peritonitis has not yet taken place. Beware of physical findings in a case of ectopic; they must harmonize with the history of the present illness and past illnesses. Rhodes of Pittsburgh, in *The American Journal of Obstetrics*, Oct., 1918, states: "That we can learn more from a good history than from a physical examination." If you fail to arrive at a correct diagnosis it is due to lack of method in taking the history and to faulty utilization of a systematic research for the cardinal diagnostic points. Among the unmarried it is often impossible to obtain a truthful history. For obvious reasons the patient will sometimes refuse information and will often mislead the questioner in an attempt to so construct her history as to produce the impression of the necessity for a curettage.

Within the last two years the writer mistook a case of ruptured ectopic gestation intra-peritoneal, for ruptured duodenal ulcer. In this case, the patient being unmarried, there was a perfectly normal menstrual history with a long history of gastric disturbances and pain after eating and the patient was seized with her abdominal pain while eating cheese sandwiches and

drinking beer, and had a general history of an improper method of living so far as her diet was concerned, there being nothing in the history pointing towards any pelvic pathology.

There is a type of case without any genital hemorrhage whatsoever, but it is very rare, the writer having seen one case and heard the report of another by L. Grant Baldwin, of Brooklyn, at one of the meetings of the Hospital Graduates' Club. Some writers claim that a diagnosis of ectopic as reported prior to rupture is open to question. They show an utter lack of experience in diagnostic and operative gynecology. The diagnosis of unruptured ectopic in those cases which are early incomplete tubal abortions with a small amount of hemorrhage into the free peritoneal cavity are not allowable in the writer's category. True the tube is not ruptured in its continuity, but the distal end is open. In the author's work an unruptured ectopic is one where there is no bleeding whatever from the tube, either in continuity or from the end. The distal end must be closed to satisfy by classification.

Typical Ectopic Histories as a Logical Working Basis.

Class A.—The menstrual period of the patient will come on at the regular time, but will be atypical in character as to flow and amount and will be prolonged, with spotting daily or at intervals, with crampy pains in one or the other sides of the lower abdomen.

Class B.—The menstrual period will be postponed from three to seven weeks. When the flow does occur the patient will think she is coming around all right, but instead of a flow for the usual number of days the period will be prolonged, with spotting; accompanying will be crampy pains as in Class A, but more severe. The crampy pains are often accompanied by a feeling of faintness, nausea or vomiting.

The pathology of Class A is that of an early tubal abortion, complete or incomplete, the general symptomatology depending upon the amount of hemorrhage.

The pathology of Class B is that of a tubal rupture or a late tubal abortion, the general symptomatology such as pain and shock being greater than in Class A and depending upon the greater amount of hemorrhage which will occur in a later tubal abortion, or if a rupture which is the most frequent ending of this postponed type depending upon the location of the rupture. The sharp, agonizing pain of the rupture is added to the first crampy symptoms, the amount of shock being dependent upon the location of the rupture, with a consequent difference in the amount of hemorrhage, being less in those cases rupturing towards the distal end and becoming correspondingly greater as the rupture occurs nearer the uterine end of the tube.

The amount of hemorrhage and shock is also influenced by the rupture occurring into the free peritoneal cavity or extra-peritoneal that is, between the two layers of the broad ligament. The amount of hemorrhage is often out of all proportion to the shock in a particular case, that is, we can have great shock with very slight hemorrhage. The author has seen one case die from hemorrhage, occurring on being returned to the ward after an examination under an anesthetic and a conclusion that ectopic was not present. This again teaches us the fallacy of dependence upon the physical findings. The fatal result could easily have been avoided by a simple posterior colpotomy for diagnosis.

The location of the rupture also affects the physical signs and right here the author wishes to again affirm *that one should not depend in making his diagnosis upon physical findings.* They are merely confirmatory or otherwise, but the diagnosis should rest upon the history. One can have a tubal abortion or a rupture without any physical findings aside from the normal if seen early enough so that a clotting of blood has not taken place in the intra-peritoneal cases. When seen late enough so that this clotting has occurred, one will of course find the mass thus formed to the right, left or posterior, as the bleeding has occurred and settled in these different locations, or when extra-peritoneal, in the right or left fornices. These latter cases have the primary history and findings and if seen late may have a secondary history of the hemorrhage occurring after the secondary softening of the primary clot and the consequent relief of pressure. In either type of case, A or B, the placenta may remain attached in its original location or find a new attachment and the fetus continues its development for a number of months, or even to full term, as an abdominal or intra-peritoneal pregnancy or, as I have seen in a case operated upon by me two years ago at the Coney Island Hospital, a continued development of an extra-peritoneal pregnancy up to the eighth month and then removal by the author, the primary rupture being between the two layers of the broad ligaments early in the pregnancy.

The formation of a lithopedian is simply a further development along these lines, the discussion of which is not pertinent in the present paper, as the author is trying to give the general practitioner a logical working basis for the early diagnosis of his cases. Working along the above lines will easily develop a 90 per cent diagnostic ability which is more than has ever been claimed by abdominal surgeons and all that could well be asked of human ability.

After having carefully considered the history and made the diagnosis, the physician should stick to it. If the patient recovers without operation still stick. Undoubtedly many of the cases of early tubal abortion recover without ever having been opened. Why should not also many cases of primary rupture between the two layers of the broad ligament, even though these latter cases are frequently the victims of secondary infection followed by a posterior section?

This has recently occurred in a case seen by the author. The patient came under the care of another gynecological surgeon after having passed out of my hands, the gentleman referred to having reported his findings to me. This was a case where a curettage had been done and when seen by the author, she had a complicating cellulitis and temperature, and it was thought that the only effect of the curettage had been an infection, the pregnancy not having been disturbed. The findings were that of a uterus the size of a four months' pregnancy with tenderness over the lower abdomen and in the fornices. The surgeon who subsequently saw the case and operated, removed fetal bones by a cul-de-sac incision. In the opinion of the author the question of this case being either primarily an intra-uterine pregnancy with rupture of the uterus or an ectopic can never be satisfactorily settled.

The author could multiply from a review of cases seen by him the typical and atypical histories, but the only thing then accomplished would be to further cloud the mind of those he wishes to help in their every-day, hard work—the general practitioners.

The conclusions in this article have been arrived at after careful analysis of the histories occurring on his various services, particularly those at the Jewish, Long Island College and Kings County Hospitals, during the last twenty years.

This analysis is my authority, not a text book or

magazine authority in so far as my own ideas of the histories of ectopic pregnancy is concerned.

In making a differential diagnosis from other conditions follow the dictum first that every supposed abortion should be considered an ectopic until proven otherwise. In abortion the pain is in the center of the lower abdomen, not confined to one or the other sides as in ectopic. It is less sudden and a mass is absent.

A mass is absent in early tubal abortion until there is sufficient blood in the cul-de-sac and a sufficient time has elapsed for clotting to have taken place to form the mass. In a case operated upon by the writer several years ago for simple hernia, a few months after a normal delivery, before the resumption of a normal menstrual history, the patient went into a collapse directly after being removed from the operating room and a correct diagnosis was not arrived at until several days had elapsed, when a palpable mass was present. A careful review of the history excluding the operative history finally gave us our clue. In this case the writer called to his aid three different consultants and several different diagnoses were given, owing to the operation having complicated matters. The cervix is usually dilated in abortion and in early tubal abortion the uterus is not appreciably enlarged. In ectopic the cramp like pains are succeeded by a general soreness.

A ruptured tubo-ovarian abscess or an acute pyosalpinx with escape of pus into the free peritoneal cavity and a resultant acute peritonitis has been the cause of two mistakes by the writer during the winter of 1917. Both cases were opened under a mistaken diagnosis of ruptured ectopic. These cases present the symptoms of shock, but the blood pressure is not lowered correspondingly. The blood count is sometimes of aid. There is a high leucocyte count in ectopic but not corresponding to that of an acute inflammatory condition. Neither do we find a high differential in an ectopic. The shock of the sudden rupture and the severe toxemia in these cases is productive of a low temperature which leads one to give the preference to hemorrhage.

Chronic tubo-ovarian conditions of a gonorrheal or mixed type is a condition very hard to differentiate from ectopic. In both there may be a temperature. The crampy pains of a peritonitis localized around the gonorrheal tubes. You have the crampy pains of distension in ectopic. You may find the gonococcus, urethral or cervical, which would be of aid and a careful review of the history might show the case to have been of long standing with intermittent attacks of peritonitis, but even then because of the fact that in these cases of gonorrheal pus tubes you sometimes have a delayed or missed menstrual period, you are very liable to be mistaken in your ultimate conclusion. The reason for inopportune change in the menstrual period is not known, except as a theory.

Salpingitis is usually bilateral with extreme tenderness and restricted mobility, and there is an irregularity of the mass and its hardness when compared to the doughy feel of clotted blood, or a tube distended with blood.

Appendicitis.—Pain usually first in the epigastrium, later in the right lower abdomen with typical localization and rigidity of the right rectus accompanied by nausea and vomiting, rise of temperature and inflammatory blood count.

The author recently mistook a case of incomplete abortion in a young unmarried girl with complicating ovarian cyst with a twisted pedicle and a leucocyte count of 22,000 and a differential of 80 per cent for appendicitis. We had the rigidity and rise of temperature and genital bleeding which I was told was the menstrual period—in other words, an absolutely misleading history. (Pregnancy in a bicornate uterus is to be thought of.)

Diverticulitis.—Usually occurs in older women with a history of prolonged constipation, chronic leakage giving rise to large inflammatory deposits. The acute conditions arising therefrom give the symptomatology of an acute infection .

Another class of cases most likely to render diagnosis difficult is where a woman has recently been delivered and the periods have not yet resumed their normal periodicity, especially if she has a chronic salpingitis existing on one or the other side, or a cellulitis from a low grade infection because of an unhealed tear of the cervix or an endo-cervicitis.

Ovarian conditions, the symptomatology of which may suggest ectopic pregnancy are:

1. Corpus luteum or follicular cyst.
2. Torsion of the pedicle of a cyst.
3. Rupture of a cyst with or without intra-abdominal hemorrhage.
4. Ovarian hemorrhage.
5. Hemorrhage into the cyst.

The influence of ovarian cysts on the periodicity of menstruation is well known. Any of the conditions of the ovary outlined will give symptoms which simulate very closely those of ectopic gestation and the rupture of a corpus luteum or follicular cyst may result in sufficient hemorrhage to produce the classical symptomatology of ectopic gestation. Any other of these conditions may give rise to delayed menstruation and may cause pain and in the absence of shock or other symptoms of intra-abdominal hemorrhage, the diagnosis of an existing ectopic will be in doubt.

Retroflexed gravid uterus.—Dysuria is a prominent symptom. This symptom is ectopic only occurs when an amount of blood clot sufficient to cause pressure has taken place.

Co-existing intra and extra uterine gestation.—I would hardly ask to be able to make the diagnosis. The author has seen one case. An abortion took place under his observation. The patient was operated upon for ruptured ectopic two weeks after leaving the hospital, by one who was kind enough to call him up and talk the case over with him.

Interstitial pregnancy.—Three features characterize this condition, the fundus is more vertical, the round ligament is inserted lateral to the sac, and the tubes are inserted asymmetrically on the fundus of the uterus. Rupture tends to occur later than in other forms of ectopic pregnancy.

375 Grand Avenue.

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A Free Treatise on High Blood Pressure.

Hypertension is a subject that commands greater interest every day, not merely because of its increasing prevalence, but also for the reason that it is recognized as a condition in itself, regardless of the underlying clinical picture which is in many cases amenable to treatment. Any literature, therefore, that contributes towards a helpful and constructive consideration of this question is welcomed by the physician. Dr. M. Clayton Thrush, Surgeon to the Central Hospital, Philadelphia, and a practitioner of some note, reviews concisely and informingly this important subject in a booklet entitled *High Blood Pressure, Its Significance, Diagnosis and Management,* issued by the Drug Products Co., Inc., 48-52 West 4th St., New York, which is offered free to all who care to ask for it. The edition is, we are told, somewhat limited, so that anyone desirous of having a copy should write for it at once.

FRACTURES OF THE JAW.

MAJ. CALVIN W. HARNED, MAJ. M. C., U. S. A.
Des Moines, Ia.

The work of the maxille-facial department of Base Hospital 61 began with the arrival of the first two convoys of 636 patients on Oct. 6, 1918, of which 42 had gunshot wounds of the face, head and neck.

Wards 1 and 2, of 100 total bed capacity, were selected for the head injuries and these beds were soon filled with all kinds of surgical cases because of the scarcity of beds on the surgical side. Later Ward 2 was used for head injuries alone.

moved before the patient was discharged. The teeth were suitably held in proper occlusion.

Owing to the rapid evacuation of patients, in order to make room for the more urgent cases, it was impossible to obtain a complete series of x-ray pictures of all the interesting cases. The photographs shown in this article give a limited idea of the varied and severe cases of head injuries treated at this base.

In many cases head injuries were complicated with wounds of other parts of the body, such as fracture of the femur, humerus, etc. Most of the fractures were caused by shell fragments and machine gun bul-

Fig. 4 Fig 24 Fig. 15 Fig. 20 Fig. 21

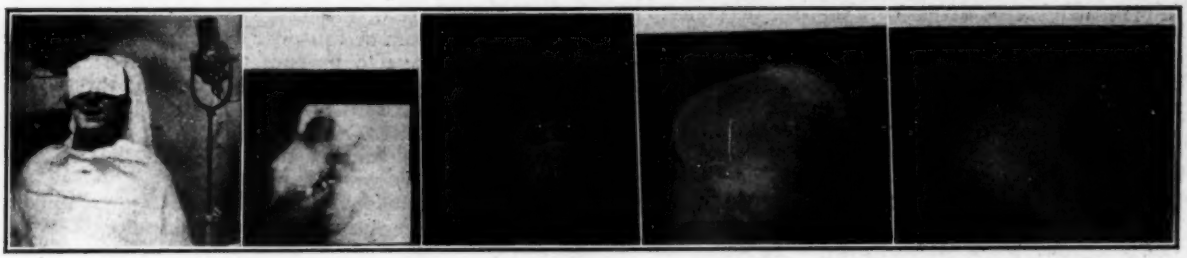

Fig. 22 Fig. 23 Fig. 17 Fig 18 Fig. 19

Case 4. Fig. 4. Gunshot fracture of the Mandible. Extensive injury of the soft parts.

Case 12. Fig. 17. X-ray shows Hammond wire splint adjusted. Wires and foreign body later removed.

Case 13. Fig. 18. X-ray shows foreign body in the spheno-maxillary fossa.

Case 14. Fig. 19. Note machine gun bullet. Splint in place.

Case 15. Fig. 20. Gun shot wound of the cheek. Missile entered the Antrum of Highmore. Instruments indicate the course of the bullet and exit on the opposite side of the face.

Case 16. Fig. 21. Gun shot wound of the angle of the jaw. Strip of gauze held in the surgeon's right hand passes through the socket of the third molar tooth.

Case 16. Fig. 22. Shows point of entrance of the foreign body.

Case 17. Fig. 23. Foreign body in the spheno-maxillary fossa.

Case 18. Fig. 24. Gun shot wound of the scalp, superior maxilla. Cellulitis about the orbit.

Fig. 25. Shows calipers in position as used by the dentist to secure proper occlusion for the construction of splint.

The dental department helped greatly in the work of splinting and wiring the fractured maxillary bones. The absence of casting metal and a vulcanizer the first month made it necessary to resort to other methods of retaining teeth and bones in position.

The use of the modified Gilmer and Hammond wire splints, fracture bands, shin cups, head bands and Barton bandages were freely employed. Twenty-gage wire was used very successfully, but the time element in this method was a disadvantage. We did not find that severe infection was a contra-indication to the use of silver wire in maintaining the alignment of fractures. The free incisions necessary in fractures of the jaw often disclosed foreign bodies not shown by the x-ray. Anti tetanic serum was injected in all cases after operation.

Later, through the efforts of Major Geo. Dorance, chief consultant in oroplastic surgery, for the Beaune Hospital Center we were able to secure a limited amount of casting material. We were fortunate in being able to secure the services of the Center Dental Laboratory in making splints for the most severe cases. In cases in which silver wire was used, it was, in all cases, removed before the patient was discharged. The teeth were suitably held in proper occlusion.

lets. Simple fractures were uncommon. There were two in the entire number of head injuries. Fractures of the maxillæ with loss of bone tissue and injuries of soft parts were common and composed nearly 70 per cent. of the work of this department. Compound fractures of the mandible and superior maxillary bones were frequently encountered.

All cases were infected and some arrived at this hospital in a marked state of toxemia. In two cases the swelling of the tongue and soft tissues of the neck were so marked that a trachœtomy was necessary.

Carrell-Dakin treatment was not employed to any great extent in combating the infections about the face and jaws. The use of free incisions, debridement and packing of wounds with gauze wet in campho-phenique solution was found very efficatious. None of the jaw cases died.

The following are some of our most serious and interesting cases:

Case 1. Fig. 1. M.: Fracture of superior maxilla and nasal bones. Loss of entire lower portion of the nose and the three molar teeth on the left side. Antrum of Highmore involved.

Fig. 7 Fig. 6 Fig. 13 Fig. 9 Fig. 5

Fig. 16 Fig. 14 Fig. 11 Fig. 15 Fig. 12

Fig. 10 Fig. 2 Fig. 26 Fig 28

Case 2. Fig. 2. Very extensive compound fracture of the Mandible. Symphysis and lower lip carried away. Tongue severed from the floor of the mouth.

Case 5. Fig. 5. Gun shot wound—shattering of the tempero-maxillary articulation. Salivary fistula. Condyle and ramus of the lower jaw carried away.

Case 7. Fig. 6. Shrapnel wound. Fracture of the tip of the Mastoid. Wound of exit below the external auditory meatus. Rupture of the internal jugular vein. Two severe secondary hemorrhages.

Case 7. Fig. 7. Same as preceding.

Case 8. Fig. 9. Same as preceding. Complete facial paralysis on the right side.

Case 9. Fig. 10. Gun shot wound and fracture of the lower jaw. Cellulitis of the neck. Salivary fistula. Shows wire in situ.

Case 9. Fig. 11. Same as preceding. Shows head gear and hammock. Facial paralysis.

Case 10. Fig. 12. Missile entered posterior to the Mastoid passed forward to the center of the lip and lower jaw fractured.

Case 10. Fig. 13. See preceding case. Shows displacement of the teeth.

Case 10. Fig. 14. Open bite Gunning splint (metal). Note the good occlusion.

Case 11. Fig. 15. Gun shot wound of the lower jaw. Fracture.

Case 11. Fig. 16. Same as preceding case. Shows metal splints in position.

Fig. 26. Maxillo-facial room.

Fig. 28. Group Medical Officers—left to right, standing: Capt. Ash, Capt. Webb, Lieut. Col. Stevens, Capt. Harned, Capt. Morrow. Second row, enlisted personnel Maxillo-facial department: Lieut. Donlevy in the center.

Case 2. Figs. 2 and 3. W.: Compound comminuted fracture of the lower jaw with the loss of the four lower incisors, first and second cuspid and bicuspid teeth on the left side. The greater part of the symphysis and two-thirds of the lower lip were carried away. The tongue was severed from the floor of the mouth for a distance of three centimeters necessitating the ligation of both ranine arteries. Only the skill of the Evacuation Hospital medical officers rendered it possible to save this man's life. The infection and odor in this case was beyond description. The anterior portion of the chin bone, which had been driven back into the neck, was brought forward and held in position by silver wire. An appliance was adjusted to the second and third molars, on the left side, carried across to the right cuspid and bicuspids, and to this arch, which held the two sides of the jaw apart, the silver wires were anchored. This made an admirable support to obtain traction and pull the chin fragments forward.

Case 3. Compound comminuted fracture of the mandible, caused by a machine gun bullet which shattered the body of the bone on the left side and necessitated removal of the greater portion.

Case 4. P., Fig. 4: Gunshot wound of mandible shattering the body and carrying away a large portion of the soft tissue.

Case 5. Fig. 5, R.: Machine gun bullet entered the back of the neck near the spine of the sixth vertebra, passing upward to a point below mastoid process, shattering the angle of the jaw at the tempero-mandibular articulation. To recover the bullet the entire condyle and ramus had been removed two days before the patient reached this hospital. Severe infection and a parotid salivary fistula resulted. A second incision was necessary and a tube placed to control the severe cellulitis.

Case 6. B.: German prisoner. Machine gun bullet entered the face in the right bicuspid fossa, tearing away the superior maxillary and nasal bones and all the teeth with the exception of two molars on the right and one molar on the left, and the maxillary process surrounding the teeth. The bullet was removed from the soft tissue of the cheek on the left side. A vulcanized splint was constructed to retain the soft tissue of the lips, nose and cheeks during the process of repair.

Case 7. Figs. 6 and 7. E.: Shrapnel wound, fracturing the tip of the mastoid portion of the temporal bone and angle of the jaw on the left side. Wound of exit three mm. below the external auditory canal, rupturing the internal jugular vein. This was packed on the field after severe hemorrhage. Secondary hemorrhages occurred at two different times caused by severe infection. The last hemorrhage was controlled only after the ligation of both internal and external carotid arteries and the internal jugular vein. The incision for ligation healed by first intention and the lateral sinus was packed firmly with gauze saturated with campho-phenique. This man also had compound fractures of both bones of the forearm.

Case 8. Figs. 8 and 9. T.: Foreign body entered just below the mastoid process, on the right side, lodging in the spheno-maxillary fossa and fractured the ascending ramus of the lower jaw. Later to control the secondary hemorrhage, ligation of the external carotid artery was done.

Case 9. Fig. 10. B.: German prisoner; gunsot wound of right side of the lower paw with fracture. Extensive cellulitis of the neck. A drainage tube was placed in a pocket along the sterno-cleido-mastoid muscle. When this large swelling was opened a clear, mucilaginous fluid escaped showing it to be of glandular origin. Arrow points to silver wire in situ.

Fig. 3 Fig. 1 Fig. 8 Fig. 27

Case 1. Fig. 1. Fracture of the Superior Maxilla and Nasal Bones. Loss of the lower part of the Nose. Involvent of the Antrum.

Case 2. Fig. 3. Same as preceding.

Case 8. Fig. 8. Shows loss of the lobe of the ear and destruction of the Mastoid. The foreign body lodged in the speno-maxillary fossa and fractured the ascending ramus of the lower jaw.

Fig. 27. Special ward for head injuries.

Fig. 11 shows head gear and hammock and facial paralysis resulting.

Case 10. Fig. 12. Gunshot wound, bullet entering back of head just posterior to the mastoid bone and passing forward in almost a direct line to the center of the lip. The lower jaw was fractured, displacing the teeth as shown in Fig. 13. Fig. 14 shows open bite Gunning splint and bandages to support the jaw and teeth.

Case 11. M., Fig. 15. Gunshot wound of lower jaw with fracture of second bicuspid on right side. Metal splint in position. Fig. 16 same case, showing splint and occlusion.

Case 12. T.: Gunshot wound of chin. Compound comminuted fracture. Fig. 17 shows wire Hammond splints on upper and lower jaws. Foreign body was removed and wires were placed to retain the parts in position until a permanent splint could be made.

Case 13. Fig. 18. L.: X-ray showing foreign body in spheno-maxillary fossa.

Case 14. Fig. 19. K.: Machine gun bullet. Metal splint in position.

Case 15. Fig. 20. R.: Gunshot wound of cheek entering antrum of Highmore. Shows the exit on the opposite side of the face and the path of the bullet.

Case 16. Fig. 21. H.: Gushot wound of angle of the jaw on right side shattering the bone and loosening the third molar tooth. The strip of gauze held by the surgeon passes through socket of the third molar. Fig. 22 shows point of entrance of foreign body.

Case 17. Fig. 23. R.: Foreign body is shown in sphenomaxillary fossa which entered the bicuspid region and fractured the body of the mandible. The foreign bodies were removed through the mouth.

Case 18. Fig. 24. T.: Gunshot wound of skull, scalp and superior maxillary bone. Severe infection with cellulitis of the soft tissues about the orbit. The eyeball was not sacrificed. The antrum of Highmore was drained through the nose.

Fig. 25. Calipers in position used to secure proper occlusion for construction of splints.

Fig. 26. Maxillo-Facial Room.

Fig. 27. Ward Two for Head Injuries.

Fig. 28. Group of medical officers and men connected with head department.

The Man Young at Fifty

REGULATION OF MATURE NUTRITION.
"The Balanced Ration."

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That man, young or old, who hopes or expects to attain most nearly the maximum of health, happiness and longevity, must aim to get and use the exact kinds and amount of food (nutriments) capable of meeting his particular and changing needs. While these vary in accord with age, make-up, type, racial peculiarities, state of health and the like, certain common denominators can be pointed out. The one supreme objective is to learn what is, and to use, a "balanced ration," just enough and not too much of any one item. This ideal ration is within the reach of all, can be selected from ordinary sources of food supply; it is no mysterious or complicated something and choice depends more on common sense than on wisdom or science.

Indeed, experts in scientific rationing cheerfully admit that the only guide any of us needs is to follow our sane unimpaired or non-vitiated promptings. The primal selective instinct is both bane and antidote, offering no barrier to successful nutrition provided we early form habits of referring any temptations to err to that inward monitor on whose guidance we can completely rely.

Alas, this seems simple enough, indeed is merely using impulses fundamentally right. In practice it is no more easy, in this journey through the tempting valleys of our earthly paradise, than it was for Father Adam to decline the solicitation of Mother Eve and her symbolic apple. Hunger is the evidence of organic need; appetite is hunger plus discrimination; so, too, of taste or desire, that involves a wish reflecting a fluctuating ideal. On the other hand craving is a vitiation of taste, a perversion of desire, due to the promptings of an artificial or fictitious want.

Upon such rocks of circumstance and wishful veerings into paths of lowered resistence to temptation, does our love for adventure, for departure from the primal and plainly indicated way, lure us into thrilling and dubious prandial courses fraught with penalties, but strewn with the flowers of forbidden joys.

It is well to take many cautious looks behind during our complex busy life, our flirtings with civilized modifications of primitive and authentic wants, and to fix our minds resolutely on the outstanding fact that in ourselves lies the safe and dependable monitor of choice and behavior, of actuation and inhibition. There is no good reason, but endless bad but delightful reasons, why we should serenely and carelessly step out of the straight and narrow paths of instinct so amply provided by nature, or to let those incomparable proclivities weaken, so well designed to lead us to the attainment of our maximum of survival and productive values. Biologists tell us, by the way, these energies should enable us to reach a placid ending at about 150 years.

It remains for each one to force himself away from wasteful habits, prodigal propensities, uneconomic customs and to resist temptation at any age or time or place. We shall thereby regain so much of our supreme inheritance as is consonant with the weaknesses and decrepitudes caused by whatever course of life has been pursued up to this point. In the act of forcing our erring selves back into ideal courses of behavior we will be surprised to find the power of habit, of taste, of custom and above all the pressure of example, to be so astonishingly strong as to be next to insuperable.

We are constantly compelled to grope about for light in a way sorely darkened by the compulsion of those binding influences, our life long predilections, our communal customs and our altered or divagated instincts. Hence we come to rely on our main guide, which is science, the sum total of observations and conclusions of those who have kept the divine flame in the lamp of truth trimmed and burning. Too often ours is merely a penny dip and not visible in the full light of day. Scientific teaching is the best we know, however, so use it we must or "go broke" in that functional enterprise which constitutes health or wholesomeness. If, or when, we do "go the limit," eat what we like and as much as we please, or of any or of many things so readily accessible (if we have the price), we become landed in that maze of obscurities scientifically called—and the every day citizen soon gets the "patter"—diseases of metabolism." Now this sonorous phrase is merely used to describe the infinite complexities and persistent difficulties of body chemistry from intake to evaporation.

On these metabolic problems the ordinary citizen is incapable of judging safely. Here a little knowledge may become a most dangerous thing. Especially confusing are "lay" or popular opinions acquired through confidential chats with those who have passed through sundry dietetic experiences, consultations with authorities, and vain attempts to achieve a practical comprehension of such labored explanations as "the elect" supply—when talking down to the ordinary comprehension.

There is always some fashionable doctor to whom the metabolically troubled soul can turn for counsel. There is always some graphic idea or partial concept of this vast subject of body chemistry which catches the fashionable fancy. For years the idea of "uric acid" vexed the minds of society. Echoes of this demoniac possession still linger and serve for tea-table chatter, although the once popular views (explanations at least) of Haig are fortunately dying out. It should be a comfort to realize that there do exist short and easy methods of coming to metabolic equilibrium. The best of these is to live the simple life honestly and faithfully.

Among the disorders of nutrition may be mentioned the whole group of heart, blood vessels and kidney disorders. Arteriosclerosis is a word now in common parlance, and a promising key to this mystery is "the few protein diet" of Fougeres Bishop. If one wishes to learn what this means of blood vessel salvation is, it is merely to take at any one meal not more than three dishes which contain protein (nitrogen) elements.

Another more graphic evidence of badly balanced ration (nutritional or metabolic imbalance) is over or under fatness; emaciation or obesity. Most persons, certainly most who are at the mid stations of life, grow anxious to the verge of terror at the idea of becoming over-weighted. They well may take thought of undue expansion, since excess weight beyond certain safe proportions is a grave peril. The over-weight alone signifies little, merely an ugly burden; it is the accumulations of uneliminated body wastes (toxins) which work the mischief. Even antero-posterior extension is a small matter compared with the "wicked bacteria" which may come to haunt the insides. Obesity is disease and demands expert treatment. Polysarkia or bigness of body is due to coarse muscles and is compatible with health.

Happily the "factors of safety" in permissible variants are large. The anxiety is chiefly an aesthetic one with which we can sympathize—moderately. Jack Sprat, of the Anserine fable, and his sharply contrasted wife, speak for many. It should be a philosophic, if not an aesthetic, comfort to know that leanness or plumpness depends more on the constitution, the racial or family make-up, or the body type or conformation than on any other factor. Let it go at that and take comfort from fate or fashion as to proportions.

The two major body types (conformation) we recognize are the race horse or the Percheron group or, as some contrast them, the herbiverous and the carniverous. However, the race horse may err in conduct so conspicuously as to achieve burdensome overweight, through habits of indulgence and the neglect of exercise, and the Percheron may keep down to his norm by judicious conduct.

After the type indications have been reckoned with we need to get down to the origins—not so easy—and later deal with the phenomena. In the pony built (Percheron), or carniverous type, the tissues are usually too rigid and demand elasticizing, limbering, and hard work as well as food abstinence must be resolutely practiced.

In the race horse or herbiverous or nervous type the joints and tissues are supple, elastic, relaxable. The structures often need external support. The best way is to develop the supporting structures (muscles), especially of the waist line, the abdominal walls. When the slender ones grow fat they become obese, baggy or pendulous as to their bellies and show it more. Thus the abdominal (splanchnic) circulation suffers, relaxes unduly, becomes disordered.

A most important step in regulating nutrition is to achieve ideal conditions of living and to behave in accord with commendable practices in the matter of open air activities. Above all the nervous type—race horse—needs to acquire habits of mental serenity, psychic and emotional poise, "equinamitas." How shall you and I set about learning the balanced ration needed for ourselves?

The answer is not to be put in a few golden rules. Indeed, while the prime recommendation is to seek expert advice—real experts, not "near" ones—and secure an exact appraisement of what one needs, the only safe procedure is to form a new set of habits.

Can this be satisfactorily done? For most intelligent persons the answer is "yes." By intelligence is not meant intellectuality nor much learning, and certainly not the pinning of one's faith on current beliefs, howsoever good they may appear. The problem for each one is to cultivate life habits of referring our appetites to the inward monitor, to clear our vision of false promptings and to resolve ourselves into a committee of the whole.

How nearly can this be achieved?

Of course the difficulties are many, but not greater than, indeed, they are closely analagous to cultivating the conscience in matters of behavior, in the doing unto yourself as you would have others do for you. Religionists succeed in this; why not health religionists?

I would commend one course of action:

Elect some competent physician as "master of the temple of one's soul," take counsel with him, not once nor in mere exigencies, but often enough to learn how to order one's life in serene accord with one's peculiarities, tendencies, and varying needs. This is the key to life insurance.

Measuring food factors and amounts in terms of fuel values, heat units or "calories" deserves terse mention. To get a working idea of so large a subject would require some study. This effort is well worth the while for every one, physician and layman, to do. There usually comes a time in the history of every mature person when an urgent need arises to calculate the amounts and kinds of foods in the diet to which they should adhere. This may be needed to regulate their weight, under or over weight, but especially when body chemistry goes wrong. Care in this particular is often a paramount need in order to be assured of safety to health or for prolongation of life. Most insidious maladies or degenerative conditions depend, in the final count, upon this question of metabolism. Hence it not only becomes a serious factor in prevention of disablements, but also of decrepitudes.

Only too few physicians have as yet acquired the habit of prescribing dietaries on a basis of heat raising or work producing units. As to the laity, they are still inclined to belittle, even to ridicule, the custom.

None the less we must all come to it. We must agree to teach in calories. So also must the public co-operate. Appended is a condensed graphic table or dietary standards from Freidenwald and Rürah. This will give anyone a fair idea of the total calorie needs for individuals on whom varying demands for work are made.

DIETARY STANDARDS FOR ADULTS—PER DAY.

	Digestible or Available Protein. Gm.	Available Energy or Fuel Value. Calories.
Persons in health under ordinary conditions:		
Man at hard muscular work	138	4350
Man at moderate active muscular work	115	3400
Man with light muscular work	102	3050
Man with sedentary work	92	2700
Man with very little exercise	72	2450
Male convicts at hard work	138	3800
Ordinary male prisoners	110	3020
Unemployed male prisoners	83	2385
Short duration punishment diet	59	1805
Long duration punishment diet	82	2385
The insane	101	2450-3015
Army ration	145	4416
Navy ration, about the same as army.		

Accessory Food Factors, Protective Substances, Dietetic Regulation, Through Vitamines.

It is interesting to observe that with all our vaunted progress the leaks in our "safety-first" devices frequently more than offset our saving at the spigot. So also of our would-be economies, we too often save the less needful and chuck the essential away.

The one big diet waste is of those half recognized, age-old and trusted friends which Casimer Funk so well described and gave the graphic name "vitamines," or life principles. Of these protective substances we must eat enough or we suffer in particular ways, and it may be die, no matter how much, or how nourishing or how otherwise perfectly balcande the ration may be.

What are vitamines? The limit of present knowledge seems bounded by knowing where we can be sure of finding these vitamines of which we have such imperative need. And this we will briefly mention. Some vitamines are soluble in water and some in fat. As to the water soluble vitamine, recall the familiar story of the faithful natives at the siege of Lucknow who, when the supply of vegetables (rice) was down to the smallest, volunteered to let the "Sahibs" have all the solids if they might have the water in which they were cooked. Of course this diet would not do for long, but would serve in the emergency, would supply all that was needed for the life-sustaining water soluble vitamines, on the same principle as the laboratory experiments made with pigeons. Those birds, to whom nothing was given, lived longer than those fed on polished rice—whose pericarp, containing the protective substances, had been removed.

A word here also as to how conscious desire for food is to be interpreted. Hunger is organic need, what we must have, or we soon perish. This need is felt all over, in every cell, every nook and corner of the body, and like thirst for water must be appeased. Appetite is hunger plus discrimination, preference, in accord with varying conditions of need. Taste takes one step further, and is partly instinctive and partly discretionary; deserves consideration and points the way for wisdom in choice as to variations in circumstance, can be relied on as a true guide up to the point of where the ways part. On the one side is a real need and on the other acquired shades of need, running into habit formation, and finally into "cravings," alterations of essential needs into fictitious or vitiated wants. Even that proverbially voracious animal, the common hog *(sus domesticus)*, will, as Thos. Osborn has shown, select unaided the essential food elements when these are offered in separate containers. He will thus make a better choice than the dietetic expert in a prepared mixture.

Here we come to the debatable ground of stimulants, such as tissue conservators, tea, coffee and the like. Craving is a purely fictitious demand created by habit formation, and does not represent any true organic want, and yet often to be distinguished with difficulty from appetite—since one may become so habituated to the use of certain substances that we suffer sadly from their deprivation. The need for vitamines is imperative and in their absence disorders are graphically displayed.

Without further preamble let us survey the sources of supply of the vitamines. Among human beings the largest supply of fat soluble vitamines is to be found in absolutely fresh milk, fresh meat, the yolks of fresh eggs, the water soluble are supplied in the uncooked green vegetables, cabbage, celery, lettuce, etc., and also certain tubers as raw carrots, radishes, onions. Heat impairs these. Then we come to

*Vitamines are organic substances formed by replacing one or more of the hydrogen atoms of ammonia by an equivalent member of the alkyl group.

certain tubers rich in vitamines when cooked, e. g., roasted potato skins, in parched corn, wheat, peanuts.

Sufficient heat impairs in varying degrees the life-sustaining substances. For details study the art of cooking cereals and vegetables. Note that much valuable water soluble vitamine is found in the water in which vegetables are boiled, and this should always be saved for soup making. Steaming saves much of these protective substances; so of stewing.

The salting of meats and the drying of vegetables and fruits impairs or destroys their vitamine content. So of alkalis (soda, baking powder and salaratus), added to bread, aids the production of deficiency diseases. The less salt, soda, condiments, pepper, spices, etc., the better.

Oxalic acid in rhubarb (pie plant) is a poison and depresses. The stalk is only half as poisonous as the leaf, which when eaten by cows or goats impairs the volume of the milk and sometimes they die.

The supply of lime is obtained through the milk, fresh milk. More lime is to be had in a glass of milk than a glass of lime water. The best sources of lime, however, is through fresh, raw oyster or clam juice.

The manifestations of deficiency in protective substances now being called "the symptoms of avitaminosis" are by no means clearly differentiated but are helpful in determining what remedies to apply. They are sufficiently characteristic for practical purposes and when the organic need is supplied will go far toward raising vigor or even to the saving of life. We are on safe ground in recommending that wherever phenomena of unexplainable weakness is present, especially those evidences of lowered energy tides, or the secondary effects of depression shown in irritability, in alternation with apathy, the diet should be modified in accord with the knowledge we have of well marked deficiency diseases such as scurvy, pellagra, beri beri.

Not only so but, in our aim to secure the ideal balanced rations for all it is a wise course to urge upon every one to keep themselves informed on the advances in scientific findings, and to economize strength by selecting such foods as furnish a just proportion of both the calorie forming and the vitamine supplying items.

Experiments in the Japanese navy have shown conclusively that on a less calorie diet and an increased vitamine content, the men uniformly gained weight as well as vigor. It would be an interesting research to appraise the local, or group, effects of the now so largely used war gardens. Here is one of the most perfect means of supplying the water soluble vitamines through *fresh* green vegetables and small fruits. Should this experiment be carried further and, as I urged long ago, that milch cows or goats be kept in vacant lots or parks, or abandoned graveyards in towns and cities, we should advance much farther along the way of desirable rationing. Here we get the fat soluble vitamines in fresh milk and cream.

The great point as Valpino has shown in his researches among the pellagrins, is that any long continued feeding on a narrow or single line of foods—monophagism—is followed by evidences of deficiency disease.

*In every restaurant there should be posted up, or available, information as to an ordinary portion the calorie content, and the vitamine content

To sum up with the phenomena which deserves record as indicating avitaminosis, they are briefly these:

Weakness, depression, impairment of vigor, of physical tone fading into dullness and inertness, otherwise unaccountable.

Of course other causes may already exist to produce this disorder but inadequate protective substances exaggerate them. They increase many exsiting secondary effects which are attributed to nervosuness, even mental confusion, running all the way from mere asthenias or adynamias to pronounced and fairly characteristic pathogenic features.

Certain of these agencies are connected with impaired digestive functions or disorders of body chemistry of metabolism. Some few are destructive. The manifestations are exhibited by loss of poise in the autonomic or vegetative nervous system, and anomalies of function in the ductless or blood glands. Thus they project far beyond the reach or control of faith cure or Eddyism or "laissez faire."

Of course much can be achieved by right thinking but the rightness must include choice of foods rich in vitamines.

It forms a pretty problem to determine where the one ends (the psychic urge) and where specific dieting or drugging must begin. Should enthusiasts demur at this they are referred to any competent clinician who has had ample evidence from his own, and oversight of that of his colleagues, that few more fatal mistakes are made than by blindly trusting to the efficiency of the most perfectly chosen or "specific drug," which may, however, be given in *doses wholly inadequate* to produce characteristic effects. Thereupon catastrophe must follow. The patient may die in the faith but he is just as dead as though he had no mental reassurance nor "specific."

This negative harm is quite as destructive as the active harm of feeding a half starving vigorous man indefinitely upon the accredited allowance of a six-months-old baby.

The symptoms of vitamine deficiency, so far as can be learned from observers, may be summarized as follows:

Lowered appetite, distaste for food, disturbances of the peripheral blood vessels (vaso motor imbalance), coldness or flushing or undue heat of the extremities and surface, pallor, edema without albuminuria, painful states, tenderness, even neuritis in surface nerves.

The showing is by no means always definite. The phenomena merge into those of most states of depression.

In particular deficiency diseases there are of course characteristic symptoms, such as in scurvy, pellagra, beri beri, and the like.

Scurvy was observed rather extensively among the troops of the various armies, but least on the western front.

It was mainly of the latent or subacute variety and influenced the character of some of the infectious diseases.

Likewise it was met among the civilian population to a greater degree than in peace times, chiefly in infants and centered about the milk supply (Hess and Unger, *Am. Jour. Dis. Children*, April, 1919).

The prolonged use of any one sided, or restricted diet is said by Volpino (*Annals d'Igent*, Sept., 1918) to tend to cause, or to precipitate, pellagra. He

calls this "monophagism." Pellagra he describes as being a state of higher sensitizations to poisons in spoiled maize. Other elements enter into the causation, which, in turn, tend to develop sensitization.

Summary.

Among the foods mentioned as best supplying the protective substances, or the deficiencies caused by avitaminosis, are to be mentioned first of all fresh milk and butter, fresh fruit juices, notably of the orange and other acid fruits.

Meat juice—fresh, not the extracts—also raw meat; the yolk of fresh egg; the pericarp of most cereals, of which barley is the most important, the whole grain, cover and body, next of wheat and of other cereals to lesser degrees; most legumes, and especially the water in which they have been boiled. Indeed, the water in which cereals or vegetables are boiled, as has been said, should always be preserved and used in making soups.

Among the vegetables mentioned as containing the most available protective substances are spinach, beet tops, onions, potatoes, peas, carrots, cabbage, green corn (maize), cauliflower, tomatoes (even canned tomatoes have proven of nearly the same value as orange juice).

Onions are particularly valuable, since they retain the essential qualities most readily under varied conditions of exposure or bad handling.

An extract made from fresh or clean corn (maize) has proven of curative value in pellagra, used hypodermatically. Orange juice, boiled and neutralized, has proven of value given subcutaneously in emergencies.

The Physiologic Value of a Vegetarian Diet.

A vegetarian diet easily furnishes all the necessary food elements, water, mineral salts in the desired proportion, the calorie formers, the carbohydrates, fats, proteins, and especially vitamines. It affords, moreover, three great advantages, according to Prof. E. Gley, recognized even by some of its opponents (e. g., W. Casper). It is poor in elements giving rise to uric acid, which is an important factor in view of the prevalence of arthritis; it facilitates the disuse and still more the non-abuse of alcohol, because those who use a vegetarian diet are almost never thirsty, the water in their food supplying the organism's need for water, and because these foods do not excite thirst as do the condiments with which meats are often accompanied; and finally vegetables are relatively cheap.

On the other hand, according to the opposing authority (W. Casper), it appears to present three disadvantages: that of being non-stimulating, that of presenting too great a volume, being cumbrous for the digestive tube and that of not being rich enough in proteins. According to Gley these disadvantages are perhaps more apparent than real. The lack of stimulating substances does not seem to him a great evil. Civilized persons are only too often tempted to abuse stimulants. Moreover, the volume of vegetable foodstuffs would be excessive only if one ate solely cabbages, potatoes and similar vegetables, but not if one uses a diet rich in cereals, in dried fruits, and especially nuts. In fact, the vegetarian diet is now used to a sufficiently wide extent to render it possible to collate scientifically made observations showing how far it is compatible with the integrity of all functions in a fully developed life. The experiments of Mesdamoiselles Joteyko and Kipiani, made on forty-three vegetarians of Brussels (students, professors, merchants, employees, artisans, society women and housekeepers), have shown that vegetarians can work two or three times longer than meat eaters before reaching exhaustion, and that the work of vegetarians is much more productive. The repair of fatigue is also more rapidly effected in vegetarians; a few minutes rest suffice to enable them to recuperate their energies.

But while recognizing that vegetable foods suffice for the normal maintenance of life, and for the integral accomplishment of all organic functions, Gley believes that in the present stage of our knowledge physiologists are compelled to recognize an important difference between the two diets, vegetarian and mixed. This difference has reference to their value from the point of view of the digestive utilization of foods, especially protein foods. It is not a question here of the respective digestibility of vegetable or animal substances. This question, already old, may be considered settled. It is one of the nutritive value of animal proteins, with proteins suitably selected. The work of digestion is accomplished according to the law of economy of labor, to which the organism always tends in its functions, and the application of which is at once advantageous and inexpensive for it. Since the organism is obliged to reconstruct its specific albumins with foreign albumins, this operation will be carried on at a loss in proportion to the difference in composition between the albumins of the food and the specific albumins of the organism. Now there is a considerable difference between vegetable albumins and animal albumins. If, on the other hand, one gives an animal the same albumin as that of its own tissues, to build up into its own substance out of the elementary fragments, it is probable that the unutilized part of these fragments, the loss, will be minimum or nil. On this is founded the hypothesis of Magnus-Levy that protein assimilation can be effected in the physiologically least expensive way by feeding animals on the flesh of those closely related to them. Magnus-Levy remarks that at the beginning of their development the highest animals in the series, mammals and birds, use, as a matter of fact, only the albumins of their own species, the first in the form of milk, the second in the form of egg albumins. From the point of view of digestion, we are compelled to admit the superiority of albuminoids of animal origin. It is clear that, for man, these are the substances which are most similar to his own proteins. Magnus-Levy humorously remarks that a cannibal, that is a creature who feeds on his own species, perhaps realizes more closely the condition of physiologically inexpensive (economic) assimilation. Recent experiments have demonstrated the sound foundation of this theory. Physiologists, to be sure, are making no attempt to rehabilitate cannibalism, but they are unable to recommend vegetarianism in place of a mixed diet in which there is place for a moderate quantity of animal proteins more closely related to their own tissues than vegetable proteins.

Typhus Fever.

The occurrence of jaundice in typhus fever is very uncommon, and is generally an indication of an additional infection, such as malaria or relapsing fever, which blood examination will elucidate.—(*Lancet.*)

EDUCATION AND RECREATION IN THE ARMY.

MAJOR GENERAL WILLIAM G. HAAN, U. S. A.
ASSISTANT CHIEF OF STAFF; IN CHARGE OF EDUCATION AND RECREATION WORK, U. S. ARMY.
Washington, D. C.

That education and recreation as applied to the new army has passed the experimental stage and is now a vital factor in the training of the soldier was shown at a convention of army educational officers, held at Camp Zachary Taylor, near Louisville, Kentucky, on December 9, 10 and 11.

Early in the year the War Department, actuated by a deep sense of responsibility felt towards the millions of men brought into the service during the war, as well as by the astounding facts as to illiteracy and physical condition of the young men of the country as shown by draft statistics, and the excellent work done by the Commission on Education and Special Training, had conceived an army built up on a new plan. It was proposed to make the army not only a military force to be trained and ready in time of national emergency, but a great educational institution where young men of the best mental, moral and physical conditions, and with the highest ideals of patriotic citizenship would be produced.

This plan was realized, in a measure, when the Congress appropriated the sum of $2,000,000 to be devoted to this purpose during the fiscal year 1920. Accordingly, in September of this year instructions went forward to the commanding generals of all divisional camps and of territorial departments, who at once appointed on their staffs officers known as Education and Recreation Officers to assume direct charge of the work. Each officer has associated with him at least one civilian expert in educational affairs, who furnishes assistance and advice in establishing schools and manual training classes.

But it remained for the Camp Taylor Convention, called by the Secretary of War in order that the work in general might be coördinated and rough places smoothed out, to show that the army is now in reality a great training school where the mothers of our young Americans will be glad to see their boys go. This idea of the army as a vast university in khaki is admittedly hard to conceive, but nevertheless the thing has been accomplished right before our eyes.

No longer is the army merely concerned with the making of a recruit into an efficient fighting man, by giving him the prescribed system of military training only for a few hours of the day and leaving him almost entirely to his own resources for the remainder of the day. It now assumes responsibility for the entire twenty-four hours of his day, and sees that every portion is gainfully spent in useful study or helpful recreation. In the soldier's life, education and recreation now have equal places with military training, and are definitely scheduled in the programme of daily work.

All training, whether purely military or educational, has as its main object the development of the soldier's mind to make him a responsible thinking human being. Every soldier, however poorly he may be educated, or however limited his experience, has still a thinking mind, and that mind is active practically all the time. Such a man is perhaps incapable at the moment of looking at affairs in a broad sense, but the object of all traning must be to guide that mind in the direction of right thinking. In order to accomplish this the instructor himself must be able to estimate about what are the channels of thought in the mind of the men being trained, in order that he may so conduct his own part of the work as to gain the confidence of the men he is instructing or leading.

In developing the soldier's mind the most rapid progress is made by placing upon the man, as early as practicable, as much responsibility as he can stand. This placing of responsibility on the man stimulates his pride, raises his self-respect, and urges him to better effort. This is applicable in all kinds of training. It is character building, frequently called moral training, and the most effective means of stimulating self-development.

Every soldier, down to and including the last recruit, will sooner or later become a leader in a smaller or greater sense. In battle, as battles are now necessarily conducted, direct responsibility very frequently goes out of the hands of the officers, and small groups of men must accomplish objectives by themselves; hence leadership must be assumed by some or all of these men. Any one of them may be placed in a position where he must act independently and make his own decision on his own responsibility, which requires thinking and acting on his own judgment. It requires leadership. And it is to develop these latent qualities of leadership that this educational programme has been inaugurated.

New recruits are inclined to look on their officers from the very beginning with respect and as thoroughly conversant with their duties. It is very important that this natural impression should be maintained and improved, but this cannot be done unless the leaders are in the habit of thinking correctly and justly in all matters, and acting accordingly. This is necessary to gain and maintain the confidence and respect of the men. When it has been fully accomplished, then most of the small difficulties disappear. There will be a high state of morale in the command, and wherever we find a high state of morale we always find a high state of discipline, instruction and consequent usefulness.

Officers of our future armies will be required not only to be thoroughly trained in a professional sense but must also have that human quality which comes only through a real interest felt for the welfare of the men under their command. They must not only be military instructors to the men, but also their leaders in all sports and recreation. Experience of the larger colleges and universities has shown that a certain amount of sport and recreation is a necessary part of the student's life, and as the army is now a great university in every sense of the word, and each man composing it a student, recreational activity will be a part of its training. Here the army chaplain enters as an important factor in the handling by military means alone of all the camp activities formerly furnished by the Y. M. C. A., Knights of Columbus, etc., and the Americanization of aliens in the army.

Under the system of education in force it is possible for men to receive instruction so as to fit them to be carpenters, blacksmiths, pharmacists, dental assistants, engine workers, mechanics, draftsmen, stenographers, truck gardeners, motor drivers, repair men, telegraphers radio and telephone operators, etc. Such educational subjects as English, geography, mathematics, United States history and modern languages are also taught. Of course, at the

present stage of the game it is not possible to give instruction in all subjects at any one camp or post, but so far as practicable the desires of the enlisted man as to the courses to be taken by him will be met.

A certificate will be given by the local commanding officer or school officer to each man who successfully completes a course, indicating that he has satisfactorily completed the course studied. A standard War Department certificate will later be adopted, and the possession of such a certificate by a soldier who has been discharged with a character of "Excellent" will be sufficient recommendation to a civilian employer as to the qualifications of the discharged soldier for employment.

On the other hand, it is highly important that the men themselves take the thing seriously and realize that the Government is concerned not only in making trained soldiers of them, but also making of them self-supporting and self-respecting members of the communities to which they will return on discharge.

This work is unique in the history of the Government, and highly important in showing the trend of the army in facing the new problems developed by the World War. It will result in making the army in time of peace a more valuable factor in the life of the Nation by producing men of best possible type, having a good general education, possessing a useful trade, but, above all, thoroughly trained in moral character and the duties and responsibilities of good citizenship.

HEADACHES AND THE NOSE.

HAROLD M. HAYS, M.D., F.A.C.S.,
New York.

There is hardly one of us who has not experienced a dull feeling between the eyes or over the eyes or a neuralgic pain in the cheek when his nose is completely stopped up as a result of a heavy cold. Of course, nowadays we all realize that pains in these locations are due to a blocking of the accessory nasal sinuses.

But there are times when frequently recurring headaches are not associated with any apparent nasal infection. For example, a patient was referred to me a short time ago stating that she had had a left sided frontal headache frequently for years. Examination of her eyes had been negative and any constitutional disturbance had been ruled out. Examination of the nose was practically negative except for a slight enlargement of the middle turbinate on the left side. Transillumination showed enough haziness of the frontal sinus to warrant an x-ray picture, which disclosed that the sinus was diseased. In other cases one or the other antrum is the cause of the trouble. Occipital headaches may find their cause in a diseased sphenoid sinus which gives no outward trouble.

In some cases there is a dull, oppressive feeling between the eyes which the patient attributes to eye-strain or to some general trouble. Such feelings are often caused by one of two conditions, the first of which is a disease of the ethmoidal cells with hypertrophy of the middle turbinate bone and the second is a high deflection of the septum with pressure on the anterior ethmoidal nerves. The removal or even the cauterization of the anterior tip of the middle turbinate will give great relief which I have seen evident in many cases. One such case was a young girl who had suffered from headaches for years, so that she was unable to do any work steadily. Both middle turbinates were greatly hypertrophied. I removed a portion of each, whereupon the headaches disappeared.

I hardly think it wise to attribute all headaches to nasal origin until one has ruled out other causative factors and has made a most careful nasal examination. Unless the condition is unquestionably apparent, such as a diseased sinus, no definite promises of relief should be made, as in many cases a nervous element is present which has to be taken into account.

Palliatives in headaches of nasal origin are of little use and lead to the establishment of pernicious habits. Veronal, codein, antipyrin, pyramidon, etc., may relieve the pain for the moment but larger and larger doses are soon needed until the drug loses its effect entirely. A bad habit has been started which is hard to break. A visit to a competent nose and throat specialist will do far more good than constantly advising one analgesic after another, which in the end tend merely to dope the patient and eventually take him away from his physicians.

2178 Broadway.

The Staining of Tubercle Bacilli.

THE most delicate method for demonstrating the presence of Koch's bacillus by staining is that based on decolorization by acids. Some acids, especially the mineral, exercise too violent an action, especially if prolonged; so that, in a sputum which contains few bacilli, the employment of them when in excess of the limit of the acid resistance may vitiate the result of the examination. The acids usually employed are glacial acetic, formic, oxalic, citric, tartaric and lactic, with the object of minimizing the excessive decolorization which occurs when mineral acids are used, and they have, moreover, the advantage of differentiating the tubercle bacilli from para-tubercle bacilli, which are acid-fast in less degree.

Professor Antonio Gasbarini, of the University of Pavia, *Il Policlinico*, Practical Section, July 13, 1919, is of opinion that the best results are obtained by the use of lactic acids as a decolorant. His technique is to treat the slide, the smear having been previously dried over the flame, with Ziehl's carbolfuchsin for a few minutes, and then immerse it without washing in a 2 to 3 per cent. alcoholic solution of lacto-methylene-blue. This solution is prepared by making a mixture of an excess of methylene-blue with lactic acid 40 c.cm. and water 160 c.cm., with four parts alcohol of 95 per cent. The lacto-blue has a simultaneous decolorizing and recolorizing effect extending to all parts of the preparation, which is then washed in running water, dried, and mounted. To demonstrate the tubercle bacillus in urine the smear is treated with a 5-10 per cent. solution of soda with 5 per cent. alcohol in order to dissolve the fatty matter of the smegma bacillus which renders this micro-organism acid-fast. Koch's bacillus remains colored red and easily distinguished from the associated flora and cytological elements which assume a clear, pale-blue tint not easily attainable with other methods. This method Professor Gasbarini asserts is much more reliable than those in which mineral acids are employed, and he has been able to demonstrate the presence of tubercle bacilli in sputum, urine, and feces in doubtful cases where Ziehl's method had given negative results.

Since the acid-fast property of Koch's bacillus is not deranged by the action of the lactic acid it is evident that the method may reveal its presence even when existing in small numbers and without previous centrifugalization. Moreover, it enables a differentiation to be made between tubercle bacilli and the ordinary pseudo-tubercle, and by the same means the smegma bacillus is decolorized by the lacto-blue in 20 to 25 minutes, while that of tubercle is still well defined. The sharp staining of other non-acid-fast bacilli facilitates the investigation of the associated micro-organisms which are of considerable importance in tuberculous infections, and lends itself to the study of tuberculosis in the tissues themselves.—(*Lancet*, Nov. 22, 1919).

Senile vaginitis is characterized by a bloody discharge of a watery consistency which often irritates the vulva, causing pruritus.—(*Pemberton.*)

The Diagnostic Laboratory

Conducted by CHESTER T. STONE, M. D.,
Brooklyn, N. Y.

Acid Fastness of Tubercle Bacilli.

Suyenaga reports experiments to influence the acid fastness of tubercle bacilli by cultivation. He grew a comparatively avirulent strain on several mediums, and found that rapid transfer and rapid growth of the younger border of colonies did not noticeably affect acid fastness. The younger cultures were not much less than the older ones. On a non-nutrient medium of agar in water, acid fastness was greatly reduced but not absolutely destroyed. Within wide limits the reaction of the medium had no marked effect on acid fastness. (*Am. Review of T. B., Oct.*, 1919.)

Comparisons of Various Antigens Used in Complement Fixation.

Young and Givier made tests on a large number of serums with three antigens, namely Cooper's autolysate, Petroff's methyl alcohol soluble antigen and Wilson's. The three antigens did not differ greatly in the percentage of positive findings in known cases of pulmonary tuberculosis (Petroff's, 66 per cent.; Cooper's, 65 per cent., and Wilson's, 57 per cent.). The positive findings in the various classes of cases for the three antigens was 11 per cent. for clinically normal individuals; 58 per cent. for questionably tuberculous; 56 per cent. for incipient; 64 per cent. (66 per cent. sputum positive) for moderately advanced, and 71 per cent. for far advanced. Moribund cases, 44 per cent., gave lower percentage than the definite cases. Fifty to 60 per cent. of positive syphilitic serums gave cross fixation with the three antigens. The serum of only one out of seven guinea pigs (of a total of seventy-five) proved unsuitable for complement fixation tests. (*Am. Review of T. B., Oct.*, 1919.)

In detecting the latent "meningovascularitis" which precedes and engenders most of the nerve processes of syphilis, lumbar puncture is most instructive and helpful. This meningovascularitis is liable to develop at any stage, early or late, of the syphilis. The charts of 1,000 cases show that during the first three years reactions of septicemic origin are common. The reactions which persist after the third year in all probability are traceable to changes in the central nervous system, although as yet they may not have given a clinical hint of their existence. Between the beginning of the fourth year and the tenth year is the period of the maximum frequency of the occurrence of the reactions in the cerebrospinal fluid testifying to a latent phase of meningovascularitis. At any stage of the syphilis, lumbar puncture will reveal the organic or neuropathic nature of nervous symptoms and the intensity of the meningitis. If there are no nervous symptoms, he advises puncture as a routine procedure at the fourth year, and would defer the puncture to this date as a rule. After the tenth year over 75 per cent. of those with a positive reaction in the fluid have also unmistakable clinical nervous symptoms. When a patient without known syphilis presents puzzling nervous disturbances lumbar puncture may clear up the case. A distinctly positive reaction with syphilis known to be a factor indicates active meningitis and this calls for treatment as long as the reaction persists positive. This may take years. In several cases in his experience notwithstanding persevering treatment symptoms indicating grave lesions finally developed. Latent meningitis is less and less frequent after the fourth year. In conclusion Ravaut warns that certain slight sypklitis processed may run their course at points in the brain or elsewhere without inducing meningitis. These must be excluded before drawing the prognosis from the normal cerebrospinal fluid. (*Presse Medical, Sept.* 19.)

62 Pierrepont Street.

The Proper Technic for Gynecological Examination.

A. M. JUDD, M.D., F.A.C.S.,
Brooklyn, N. Y.

Twenty-five years' experience in gynecological work, which includes, of course, long years of preliminary dispensary training, has taught me that very few patients approach the gynecological table properly prepared for examination.

Even in the hospital, where rules have been promulgated insisting upon an empty bladder and rectum, mistakes are frequently made.

The mistakes in a quarter of a century in diagnosis cannot all be charged up to poor technic on the part of the examiner or lack of knowledge of the conditions with which he is dealing. They are sometimes due to false findings because of a full bladder or rectum or some other condition which would not exist with the patient in proper condition for examination.

For the benefit of those who have not given this matter any thought, I have with the assistance of my office nurse, formulated the following rules, for the guidance of physicians and patients:

How a Patient Should Prepare for a visit to the Office of the Specialist in Diseases of Women.

1. If possible should not wear a corset.
2. Should wear two piece underwear, not a union suit.
3. Drawers should be open.
4. Should take an enema 3 hours before visiting the physician.
5. After the effect of the enema, she should hold the urine until seen by the physician.
6. Should not take a douche for 48 hours before going to the physician.
7. Patient should wear a waist and skirt instead of a one-piece dress.
8. All patients (women or children) having vaginal discharges, should take a full bath no later than the night previous to visiting the physician.
9. All patients should wear a petticoat.

375 Grand Avenue.

Tubercle of the Myocardium.

R. Simonini (*Il Policlinica*, Aug. 17, 1919), reports the case of a child aged 18 months who died suddenly, and at the autopsy the lungs were found to be tuberculous, also the bronchial glands, and on the right auricle there was a tuberculous mass the size of a big filbert. The mass was covered by thickened adherent pericardium; it did not project into the auricular cavity. On section it was a pale yellow, and made up of caseous tubercle surrounded by fibrillary tissue. Giant cells were fairly common at the periphery, but absent in the centre. Koch's bacilli were found centrally, but very rare in the periphery. The endocardium and valvular apparatus were normal. The case is unique in the author's experience.—(*B. M. J.*)

Surgery

Fracture of the Acetabulum.

Peet (*Annals of Surgery*, September, 1919) records a case of fracture of the right acetabulum, with irreducible intro-pelvic displacement of the femoral head, in a man aged 48, caused by an eight feet fall on to his hip. There was pain and limitation of movement in the right hip, with slight abduction and half an inch of shortening of the limb, swelling over the great trochanter, and supra-pubic tenderness, with bleeding from the meatus and complete urinary suppression. The *x*-rays showed a badly shattered pelvis, with the head of the femur driven directly through the acetabulum. The leg was held in extension and abduction at 45 degrees, with a second lateral extension round the thigh close to the groin. These apparatus had to be removed on the sixteenth day because of bedsores, and the patient's condition prohibited any manipulative measures, and *x*-rays showed no improvement. Forty days after the accident the hip was manipulated under ether, and, after breaking down adhesions, the femur could be moved freely in all directions, but it was impossible to extract the head from the pelvis. A week later the man was discharged on crutches with free passive motion in all directions, limited active motion, and with a normally functioning urethra; he reported six months later that he was walking without trouble. The condition is rare and has a high mortality, and depression of the trochanter and rectal palpation of the femoral head are important diagnostic signs in the absence of *x*-rays. Complications are frequent and severe. Reduction by manipulation under a general anaesthetic is recommended as giving excellent results in freedom of motion and capacity to use the leg. Open operation is necessary only in exceptional cases or for the treatment of complications, and resection of the head is unnecessary.

Eau de Cologne in Chloroform Anesthesia.

Jeanneuey (*Journ. de méd. de Bordeaux*, October 10th, 1919) has endeavored to prevent the vomiting following chloroform anesthesia by making the patient inhale eau de Cologne throughout the period of anesthesia. The results were satisfactory. Eau de Cologne was found to prevent the vomiting due to the nauseous odor of the anesthetic, but to have no effect on psychical vomiting or vomiting symptomatic of chloroform poisoning.

Microscopical Diagnosis of Amebic Dysentery.

The microscopical diagnosis of amebic dysentery from a fresh preparation presents few difficulties as a rule, but confusion may arise when the same stool contains both *E. histolytica* and *E. coli*. Moreover, in mixed cases of amebic and bacillary types *E. histolytica* may be so overshadowed by the presence of large macrophages and cellular exudate of various types of cell that it may be missed altogether, the case being reported upon as a pure bacillary infection. Again, a small type of *E. histolytica* (so-called *E. minuta*) is occasionally met with, more especially in early cases, accompanied by the presence of encysted forms, and this type is sometimes missed. In addition a first specimen may be almost or quite negative, whereas later specimens may show relatively enormous numbers of amœbæ. It is also possible for *E. histolytica* (motile and cysts), *E. coli* (motile and cysts), *Lamblia*, and *Trichomonas* to be present in the same specimen, possibly in symbiosis, where *E. histolytica* has been found, but the stools still retain their muco-sanguineous or muco-purulent character under emetine. Bacteriological search for dysenteric bacilli must be carried out also in any case with a high temperature and marked constitutional symptoms which cannot be referred to other causes (liver abscess, blood infection, &c.).—(*Lancet.*)

Severe Anaphylaxis: Recovery.

W. T. Munro reports this case: The patient was a man suffering from compound fracture of the tibia. He had the usual doses of antitetanic serum, and had been rendered sensitive to horse serum. When seen by me on August 23rd, 1919, he was suffering from erysipelas spreading from the wound and spreading bronchopneumonia. His condition was critical, and it was decided to give him 30 c.cm. of polyvalent antistreptococcal serum intravenously. This was diluted in saline, but the mistake made was that no effort was made to desensitize the patient before administration. Within a minute after the injection he complained that he was choking, grasped his larynx, and breathed jerkily and spasmodically. He became syanosed at once, his lips, cheeks, and neck almost assuming a black color, and the pulse was flickering; breathing eased in full inspiration.

The foot of the bed was raised immediately, and artificial respiration commenced by forcibly pressing in the lower ribs, whilst the month was cleared of much mucus by the nurse. I decided to try and relieve the spasm by making him take in any air which could be got in through a chloroform mask. A nurse held the mask, fairly well saturated with chloroform, over his mouth and nose whilst I continued to try and force in his chest, thereby getting a little air in with a mixture of chloroform. At the same time he was given 30 minims of adrenalin solution and atropine gr. 1/100 subcutaneously. Very soon choloroform began to have its effect, for in about five minutes the patient breathed, and when fully under the anaesthetic breathed normally. The cyanosis disappeared and the pulse returned; when counted it was 150 to the minute and of very low tension.

About one hour later the patient was comparatively well, and the next morning the desired effect from the serum was manifest; the general condition was much improved, and the temperature and pulse only a littel above normal. He eventually made an excellent recovery.

The decision to try chloroform in a man who was apparently dying seemed a bold one, but when it is remembered that death occurs from anaphylaxis with the chest in full inspiration, and that the condition appears to be a spasm of muscle fibres in the fine bronchi, there seemed only one thing to be done, and that was to try and relieve the spasm by an anaesthetic. It should also be remembered that it is not possible to produce anaphylaxis in an animal while it is under the influence of ether.—(*Brit. Med. Jour.*, Nov. 22, 1919.)

Late Results of Abdominal Operations.

T. R. Brown, Baltimore, while noticing the advances made by physiologic research and improved surgical technic, mentions the later undesirable sequels from some surgical operations, and calls attention to the importance of the internist as guiding the surgeon in his work and diagnoses to avoid later complications. From his study of the subject for many years past, the author concludes that the surgeon has been too prone to believe in the success of surgery in some chronic abdominal cases and to consider his brilliant successes in acute conditions too highly as applied to the prognoses of the others. He is not likely, often, to be as cognizant of the later complications, as it is to the clinician that the patient makes his complaints. Some failures are to be ascribed to a wrong appreciation of the real underlying process, as notably in the cases of so-called chronic appendicitis met with in cases of marked visceroptosis of long standing. Here the operation is in the same category as that of fixation of the kidney or suspension of the uterus, of which the importance of the symptoms has been exaggerated. Many cases of failure, partial or complete, if the surgeon better understood the underlying pathologic condition could be changed to partial or complete success. A realization of the associated and often persistent functional disturbances is many times lacking. There is too great a tendency to have recourse to surgery, in Brown's opinion, in acute abdominal conditions, and far too little for persistence in medical, dietetic and physical therapy before coming to operation. Real success in this difficult field lies in better co-operation of the physician and surgeon, and the former should fully inform the surgeon in order to enable him to choose his procedure. On the other hand, it would be of the utmost value to the clinician in his future work to have the pathology of the disease fully demonstrated to him. The postoperative treatment should be with their co-operation, and the surgeon should be posted fully as to the subsequent development of each case.—(*J. A. M. A., Nov.* 15, 1919.)

A Living Foreign Body in the Larynx.

Under this title Dr. J. Barthès has described in the *Revue de Laryngologie, d'Otologie, et de Rhinologie*, a very rare and interesting case. A man, aged 51 years, came under observation. For three weeks he had suffered from complete aphonia accompanied by paroxysmal cough and abundant hæmoptysis. Nothing relieved the cough and expectoration. His general condition changed, although his appetite remained excellent, for sleep was constantly interrupted by a very painful sensation of pricking localized in the cricoid region. While the patient was giving his history a curious phenomenon was observed. He began in a weak, almost whispering voice, but suddenly his voice regained its normal tone, and Dr. Barthès was astonished to hear that this change occurred at short intervals. The pharynx showed nothing in particular. In the larynx the ventricles and cords were slightly congested. Below the anterior commissure a little black cylinder was seen against the upper rings of the trachea.

While wondering what this body was it moved and ascended so as to lodge between the vocal cords. Dr. Barthès sotpped the examination and the patient's voice was again lost. The mechanism of the intermittent aphonia was evident; it could only be due to a leech which according as it was in the larynx

or trachea interfered with or allowed free movement of the vocal cords. On being questioned, the patient said that three weeks ago while walking in the country he drank from a brook and at that moment felt an obstruction in his throat. Dr. Barthès advised extraction under chloroform by means of Brünings's tube. He feared that if local anesthesia were used the cocain would cause the leech to loosen its hold and drop into one of the bronchi, but the patient objected strongly to general anesthesia. Fortunately the pharynx and larynx were large and tolerant. After anesthetizing the base of the tongue and the pharynx a tampon of cotton wool from which excess of cocain solution had been squeezed, so that none should run down into the trachea, was introduced into the larynx. The leech was in the traceal position. The ventricles and cords were painted several times until sufficient anesthesia was induced. A larynegeal forceps with teeth opening laterally was introduced. At this moment the leech made a movement of ascension. It was seized and lossened its hold and was removed alive. The leech measured 6 cm. It is remarkable that it should have remained three weeks in one place without loosening its hold.—*Lancet* p. 841, 1919.

Radiography of the Shoulder.

THE usual antero-posterior plates of shoulders do not give unexceptionable evidence as to the condition of this region, and a negative result is open to severe criticism. This is especially true of the subdeltoid bursa; the recognition of pathological changes in this serous sac is behind the times in this country. An extended trial of George's method by BOARDMAN and DONOVAN has fully convinced them of its excellence. The position is this: the patient is recumbent, the affected shoulder flush to the plate, the upper arm abducted to a right angle, forearm flexed at the elbow, and the whole arm fully rotated outwards. With this technique the greater tuberosity of the humerus is in profile and injuries are readily detected, whilst opacities in the subacrominal area also are made out with comparative ease.—(*Surg., Gyn., and Obstet.*, 615, 1919.)

The Technique of Paracentesis Abdominis.

WIESE (*Med. Klin.*, August 3rd, 1919) points out that the ordinary method of paracentesis abdominis by trocar and cannula is faulty, because the sharp point of the trocar is apt to wound the intestine, and the opening of the cannula being situated at its end, not at the side, the escape of fluid is sometimes checked by a coil of intestine obstructing the passage. These faults can be corrected by the following procedure: Local anesthesia having been induced, trocar and cannula are slowly thrust through the skin, fascia, and muscle. Before the deepest layer of fascia is reached the trocar is withdrawn and a blunt-pointed hollow needle with a side opening near its point is passed into the cannula, and the last layer of fascia and the peritoneal lining are now pierced. The point of the needle (Salomon's) being blunt, there is no risk of the intestine being pierced even if a coil happens to be touched, and the opening of the needle being at the side there is little chance of its being blocked by the intestine. The author uses Salomon's needle for injecting nitrogen into, as well as for drawing fluid out of, the peritoneal cavity, and he has found this combined treatment very effective in exudative tuberculous peritonitis.—*Brit. Med. Jour.*)

Marking of Varicose Veins.

COPPERNAIL recommends for the identification of the position of varicose veins at operation that they should be marked out the previous day with an aqueous solution of brilliant green when the patient is in the standing position. Before the operation the skin can be painted over with iodine without interfering with the green lines; in fact, the coats of ioline over the green make the lines even more intense.—(*Surg., Gyn., and Obst.*, October, 1919).

X-Ray Diagnosis of Early Tuberculosis Colitis.

According to Brown and Sampson, of the Trudeau Sanatorium, in the early or latent stages of tuberculous colitis the clinical picture contributes little to diagnosis. However, certain x-ray shadows taken 6, 18, and 24 hours after a barium meal show defintely the presence of colonic ulceration, though their absence does not exclude it. The x-ray picture also shows hypermotility and spasm, or filling defects, and such a picture in a patient with pulmonary tuberculosis should lead to a definite diagnosis of colonic tuberculosis. The condition is far more frequent than has been hitherto taught, and must be excluded in all advanced cases as well as all early cases with abdominal symptoms, before submitting them to radical treatment. No examination of a patient with pulmonary tuberculosis can be considered complete without an x-ray study of the intestines.—(*Amer. Rev., Tuber.*, 1920, Vol. III., No. 11.)

Surgical Treatment of Secondary Echinococcus of the Abdomen.

When faced with multiple cysts of the abdomen the operator must avoid two faults, still often committed. The first consists in being discouraged by the multiplicity of the cysts and the prospect of their recurrence, and giving it up or closing the stomach. *These patients must not be given up they must be operated upon.* The second error consists in wishing to accomplish the complete eradication of the lesions in a single operation. Multiple echinococcus of the abdomen calls for prudent treatment "in small doses," in *successive interventions.* Partial clearances must therefore be made, first of all by means of sub-pubic laparotomy, taking in hand the pelvic cystic masses (dangerous on account of the latent compression of the ureters). Pediculate cysts, those of the omentum, are extirpated without preliminary formolization.

Diagnosis and Treatment

The Treatment of Infantile Beri-Beri.

BERI-BERI has been a disease of frequent occurrence in the Philippine Islands for many years. Since the American occupation some of the medical officers from the United States, stationed in the Philippines and attached to the Bureau of Science at Manila, have carried out experimental investigations on the ætiology and treatment of the disease, and have thereby given considerable assistance in the elucidation of certain of the problems connected with this interesting malady. The results of these researches on beri-beri have generally been published in the *Philippine Journal of Science*, and in our columns we have commented upon them from time to time as they appeared. Our attention has again been directed to the subject by reading the recently issued annual report for 1918 of Dr. A. J. Cox, director of the Philippine Bureau of Science. Adverting to the incidence of infantile beri-beri, which in past years has been a considerable factor in the production of a high infantile death-rate, Dr. Cox draws attention to the beneficial results which have followed upon the treatment of the disease by an extract of rice polishings, locally known as "tiki-tiki." Investigations formerly carried out had shown a high incidence of beri-beri among women, and especially among mothers who were suckling their babies. It was also shown that these women were suffering from under-nourishment, and that polished, or over-milled, rice bulked largely in their dietary. Their breast milk was poor in quality, and to this circumstance was attributed the occurrence of beri-beri in their infants.

The Bureau of Science began to prepare the extract of rice polishings in 1914, in which year no fewer than 889 children under one year of age died of beri-beri in Manila. In that year only 58 litres of tiki-tiki were prepared; in 1915 the amount was increased to 200 litres, in 1916 to 300, in 1917 to 400, and in 1918 to 500 litres, which is estimated to be sufficient to treat 10,000 infants. Prior to 1914 95 per cent. of the babies in Manila attacked by beri-beri, died, but now, and corresponding to the increased employment of the rice-polishings extract, this percentage has been reduced to practically nil, the only deaths from infantile beri-beri now recorded being instances in which the illness had not been notified to the health authorities until it was too far advanced to benefit by treatment. In view of these successful results, Dr. Cox urges the Government of the Philippines to grant further financial help in order that the plant for the preparation of tiki-tiki may be enlarged and the use of the remedy made available on a more extended scale and in a wider area. We learn, also, from Dr. Cox's report that a series of experiments on the treatment of adult beri-beri by means of an autolysed extract of yeast has been carried out, and a certain amount of this extract prepared for use by the Bureau of Science.—(*Lancet*, Nov. 22, 1919.)

Syphilitic Recto-Vesical Fistula.

THOUGH syphilis is well recognized as a cause of ulceration and stricture of the rectum, cases resulting in communication with the bladder are extremely rare. At a meeting of the Académie de Médecine of Paris on October 28th, M. P. Peugniez, of Cannes, reported the following case. In July, 1918, he saw in consultation a man aged 69 years. His medical attendant said that he was suffering from cancer of the rectum and that a surgeon had proposed colostomy. The history was that in March he had a sudden attack of frequency of micturition with severe pains. He passed urine every hour, day and night. After these symptoms has lasted four or five days gas was passed from the urethra during micturition and the urine was turbid. In June traces of fecal matter appeared in the urine and soon fragments, of which the character was undoubted, were passed during micturition. The urine became

more and more turbid and deposited a fetid sediment of fecal debris. There were no rectal symptoms. Cystoscopy revealed an elliptical perforation behind the trigone, a little to the left of the middle line. Its borders were regular and showed no exuberant granulations. They were cut perpendicularly as if a piece had been punched out of the bladder wall. The rest of the mucous membrane was red and rich in vascular arborizations. During the examination fecal fragments were seen to float in through the perforation. Rectoscopy showed at a distance of 15 cm. from the anus a perforation of the same size and character as was seen in the bladder. There were no granulations and no tumor, and the rectal mucous membrane was very little altered in color or suppleness. M. Peugniez at once thought of a syphilitic lesion. There was no history of a primary sore, but the patient had 15 years before "psoriasis" of the nose and cheeks, which yielded in a few days to specific treatment. Five years before he came under observation a mobile epigastric tumor appeared and rapidly attained the size of the fetal head. Radiography showed that it compressed the stomach. It was complicated by two attacks of icterus and the general health failed. Under treatment the tumor disappeared in a few weeks and the patient recovered.

For the recent recto-visical complication M. Peugniez prescribed mercury and iodin. At the end of August fecal matter in the urine had become exceptional. In september cystoscopy showed that ulcer was cicatrized, but after the examination fecal matter appeared in the urine. A fortnight later it had totally disappeared. In November cystoscopy showed that the ulcer had healed, but after the examination gas was passed in the urine for a few days. After that recovery was definite. Recent examination revealed the scar of the ulcer in the bladder as a dark spot. With the rectoscope scarcely any trace of the ulcer could be discovered. The general condition of the patient was perfect. It is remarkable that the kidneys were unaffected, though the ureteral orifices were bathed for months in fecal fluid. However rare syphilitic recto-vesical perforation may be, it is necessary to bear the possibility in mind in order to avoid mistaking it for cancer of the rectum and the performance of a useless and dangerous operation.—(*Lancet*, Nov. 22, 1919.

Subcutaneous Injections of Milk in Infantile Dyspepsia.

Professor E. Weill (*Bull. Soc. de Pédiat. de Paris*, January 21st) recently had under his care three infants, aged from 1 to 4 months, who had absolute intolerance of their mothers' milk, profuse vomiting occurring immediately or soon after it had been swallowed. The vomiting was not accompanied by any circulatory or nervous symptoms, such as pallor, collapse, meningeal reaction, or eruption. The mothers themselves were in good health, and their milk was satisfactory in quality and quantity. Two of the children could take cow's milk without vomiting. One child was given to another nurse who was successfully suckling her own child, but her milk was no better tolerated than that of the mother. On the assumption that the intolerance might be due to anaphylaxis, Weill undertook an anti anaphylactic vaccination by injecting the children with their mothers' milk; 5 to 10 c.cm. of milk which had been sterilized for twenty minutes at 110° C. were injected; in two cases the vomiting stopped immediately, and in the third there was a considerable diminution in the vomiting, which ceased entirely after a second injection. In a fourth case subcutaneous injection of the mother's milk rapidly stopped diarrhoea with green stools and in forty-eight hours the stools became normal. It is noteworthy that one child who could previously take cow's milk showed an absolute intolerance for it, after subcutaneous injection of mother's milk.—(*Brit. Med. Jour.*)

The Treatment of Pleurisy in Convalescence.

Plicque (*Il Policlinico*, August 17th, 1919) takes the view that most pleurisies (with a few obvious exceptions—for example, traumatic, syphilitic, pneumococcic) are tuberculous; hence the great importance of thorough treatment not only during the attack but in convalescence. Our aim should be to reduce pleuritic adhesions and secondary pulmonary fibrosis, to remove the danger of pulmonary tuberculosis, and prevent the awakening of a primary tuberculosis as yet latent. No matter what caused the pleurisy, after an attack six months should be given up to treatment, preferably in the country and in a suitable climate; a moderate altitude, 400 to 600 metres, is often beneficial, but it should be reached by stages and not suddenly. Plenty of sunshine, but used with discretion, is advisable; the state of the patient's temperature is the best guide to how much exposure to direct sun he can bear. Ample rest, diversified by suitable exercise, is important, and amongst the exercises nothing is more useful than a course of respiratory gymnastics. Good food, slowly eaten and well digested—quality being more important than quantity—is essential, and plenty of milk should be given. Externally, counter-irritation by iodine is better than vesicants and ionization is often very useful. Warm compresses, soaked in mild saline solutions, by starting osmotic action, are often beneficial. For drugs the author relies on arsenic, quinine, and tannate of iodine. He speaks doubtfully of injections of thiosinamin or fibrolysin.—(*Brit. Med. Jour.*)

Rheumatoid Arthristi and Congenital Syphilis.

Méry and Génin (*Bull. Soc. de Pédiat, de Paris*, January 21st, 1919) record a case of rheumatoid arthritis in a female infant aged 1 year, in whom the symptoms first appeared at the age of 6 months. On admission to hospital the child presented multiple deformities of the joints, the lesions involving both elbows and wrists, the inter-phalangeal joints of both hands, both ankles, and the metatarso-phalangeal joints. Both the liver and spleen were enlarged. Ophthalmoscopic examination showed nystagmus, absence of the light reflex, and chorioretinitis in both eyes. Von Pirquet's reaction was negative and the Wassermann reaction strongly positive. The cerebro-spinal fluid was chemically and cytologically normal. After ten injections of mercury biniodide considerable improvement took place, the fluid in the joints disappeared, and the movements became more free. In the subsequent discussion M. Leone reported the case of a child aged 13 months with rheumatoid arthritis of the knees, elbows, and fingers. The child showed no signs of congenital syphilis and von Pirquet's reaction was definitely positive. Death took place at the age of 3 years from tuberculous meningitis. The child's parents were both suffering from pulmonary tuberculosis.—(*Brit. Med. Jour.*)

Influenza; Incubation Period and Immunity.

H. B. Holst (*Norsk Tidsskrift for Militaermedicin*, Bd. 23, Hft. 2, 1919) has found, by a study of influenza in different units of the Norwegian army, that the incubation period was very short, not exceeding forty-eight hours, and that barely three days elapsed between the first and the last case to contract influenza in one and the same room. Soldiers living in an adjoining room failed to develop influenza for some time, but as soon as it spread to this room all the susceptible soldiers developed influenza within a couple of days. Soldiers who had suffered from influenza in July were immune during the following October, when a violent epidemic was raging in their neighborhood.—(*Brit. Med. Jour.*)

Examination of the Contents of the Vesiculae Seminales Post Mortem.

The seminal secretion of the testes is stored in the vesiculae seminales. There may be a biological advantage in this. Examination of the semen in the vesiculae seminales of people dying of various diseases show spermatozoa in various stages of degeneration. Moreover, in two of the cases the contents of the vesiculae, examined by dark-ground illumination, showed that some of the spermatozoa were still alive and active eight hours after the patient's death. The specific energy of these active spermatozoa must have been greater than the inactive dead organisms. Consequently, in a person suffering with disease it is probable that only those with a normal specific energy survive; thus only the fittest are left for fertilization. There is reason to believe that this degenerative process of the spermatozoa may commence in the early stages of normal spermatogenesis.

In many cases of disease, especially dementia praecox, the appearances of the spermatozoa proved that for some time past no living spermatozoa had existed; they all showed appearances of marked degeneration, the staining reaction was not normal, the heads showed obvious bio chemical and morphological changes; the tails were broken off from many; the heads gave an oxy-chromatin reaction, staining with the eosin instead of the haematoxylin. Many showed only fine granules of chromatin stained by the basic dye.

Seminal fluid from the vesiculae placed in a sterilized sealed-up tube has been kept for more than four months, and the same forms could be seen as were observed in the films made at the time the seminal fluid was first collected. This fact is of importance, for it shows that spermatozoa may be found in the vesiculae when active spermatogenesis has for a long time ceased.—(*Brit. Med. Jour.*)

British National Health Insurance Retards Industry.

"After seven years of experience with the act, the viewpoint of leading manufacturers and other employers of labor throughout Great Britain is that national health insurance has no direct relation whatever to labor efficiency except that a larger amount of malingering tends persistently toward a diminution of normal output."

This is one of the conclusions brought home by Frederick L. Hoffman, LL. D., third vice president of the Prudential Insurance Company, and a member of the National Civic Federation's Committee on Foreign Industry, after a five-months' study of the workings of the British National Insurance Act in England, Scotland and Ireland, says the *Brooklyn Eagle*. Dr. Hoffman summarized his conclusions as follows:

"The act is condemned by insurance authorities as an unsound insurance measure; by medical authorities as an unsound method of medical relief; by pharmaceutical authorities as an unsatisfactory method of drug administration; by labor leaders as contrary to the best interest of the labor element; by large employers of labor as a menace to productive industry; by the organized medical profession as opposed to the best interests alike of panel practitioners and those who limit themselves to private practice; by public health authorities as of no value in the furtherance of public health measures; by authorities in charity, philanthropy and those who administer poor relief as not rendering satisfactory aid and assistance to those whose needs are most urgent."

Among Dr. Hoffman's explanatory statements were the following:

"When the National Health Insurance Act of Great Britain went into effect, the social condition of British wage-earners had made enormous progress during half a century. Wages had increased and hours of labor had been diminished. The evil of child labor had been measurably decreased and conditions affecting the employment of woman in industry had been improved. Industrial accidents were less common and the general health of the population had shown great improvement. No other country showed a corresponding reduction in the death rate from infectious, transmissible or otherwise preventable diseases. The Public Health Administration of England had become a model for the civilized world.

"British health insurance has not raised the standard of sanitary progress. The lowering of the English death rate during the previous 30 years, challenging favorable comparison with all other countries, had been achieved without compulsory health insurance of any kind.

"The fundamental error of the act was to underrate the voluntary form and to establish a subsidized system of relief. National health insurance does not promote public health or the prevention of disease.

"The benefits under the act consist of medical attendance, strictly limited both as to doctor's services and medicine to a minimum which would be considered decidedly inferior in the United States, even in the case of the very poor; of a so-called sanatorium benefit, a form of poor relief of a maternity benefit of 30s. a cash payment in the event of illness when there is total incapacity to work. There is a disability benefit, virtually an invalidity pension, up to the age of 70, when the old age pension goes into effect. Provision is made in the act for the payment of additional benefits not yet forthcoming after nearly eight years.

"The act has applied to all wage-earners receiving less than £160 per annum, but was recently raised to £250.

"The administrative machinery necessary to carry the law into effect is of truly colossal proportions. It is probably safe to assume that certainly not less than 50,000 persons directly or indirectly, in paid or unpaid capacities, are required to meet the basic administrative necessities of the act.

"The ill-defined provisions regarding medicines and appliances are disastrous failures. There has come into existence a complicated system of drug pricing and checking involving the handling and rehandling of not far from 30,000,000 prescription accounts a year.

"The main objections on the part of organized labor are that the benefits under the act are inadequate and insufficient. The act has had the effect of diminishing the sense of self-reliance, independence and thrift. Malingering in its most subtle forms has become a matter of common occurrence. The proportion of cases investigated found fully able to work is rarely less than 4 per cent. and often exceeds 50 per cent. With respect to the insurance the Labor element is demoralized and thoroughly discontented with the benefits which invariably fall short of expectations. A doubling in value of the benefits is practically unanimously demanded as an imperative duty on the part of the State.

"As to the problem of destitution, once a people becomes accustomed to receive public aid in a skillfully disguised form, the demand is insistently for more. Great Britain is confronted with this situation today. There have been changed conceptions of State duty and private liability for individual welfare, particularly with reference to adequate support during illness, invalidity and old age.

"Efforts to make the question of an adequate provision for illness and old age on the part of the wage-earners a matter of government concern are perilously near to methods of double public finance by which a part of the wage-earner's income is capitalized for the use of the spending authorities in charge of the Government.

"The British act does not rest upon an adequate actuarial basis, but upon arbitrary assumptions as to cost. The act rests upon the theory of compulsion, fundamentally opposed to the traditional English conceptions of democracy and self help.

"It is impossible to state the true expense rate of the insurance on account of a grotesquely inadequate system of governmental balance sheets and revenue accounts.

"The medical benefit regulations are extensive, burdensome and complicated in the extreme. In the opinion of the chairman of the Consultative Council of the Ministry of Health, the needs of the nation require a comprehensive reorganization of the medical services. The listing of doctors by the 'panel system' has resulted in a division of the medical profession. The fees of the panel doctor, over which there has been much contention, usually bring the doctor, when the accounts are settled, less than his regularly allotted payments. A revision of the terms of remuneration is under consideration. There is a never-ending discussion as to the proposed limitation of panels, now fixed at 3,000 names.

"It has become the rule rather than the exception for people who are ailing to seek medical attention in the case of serious illness elsewhere than in the office of the panel doctor. There are frequent prosecutions for violation of rules and regulations —overprescriptions, lack of attention, unsuitable surgery accommodations, unsuitable hours, incivility, etc.

"Public faith and confidence in medicine as a profession is gone. The public is confronted continually by quarrels and discussions concerning terms, allowances and gratuities. What was one the most highly respected of all professions has been practically reduced to a trade, and there is open advocacy of the incorporation of the British Medical Association into a trade union to secure pecuniary ends and better terms.

"The alleged benefits to result from national health insurance in removing ill health producing conditions in particular trades have not materialized.

"The administration of the act is extremely bureaucratic, complex and difficult of analysis. The act is unquestionably the most bureaucratic scheme ever devised by Parliament. The so-called 'democratic government' of approved societies and insurance committees has in practice given way to the unwieldy machinery of a huge department exercising direct State control."

Syphilis and Insanity.

An address was delivered recently to the Fellowship of Medicine by Sir George Savage, in which the relations between syphilis and insanity were discussed in some detail from the clinical and ætiological points of view. This discourse contained many lessons of interest and importance, not only to the general practitioner, but to some of those younger specialists whose positivist inclinations in pathology may well, perhaps, be corrected by due consideration of an elder's weighty words; we therefore look forward with interest to their fuller publication in the columns of a contemporary. One of the more important of these lessons is that experience shows the practical unwisdom of the prevailing mental habit of insistence on the doctrine of the "single cause." However necessary for teaching purposes, or for the systematic classification and delimitation of clinical entities, this imputation of single causes of disease may be, clinical experience and careful thought alike impress us with the obligation of recognizing the complexity of the causation of disease.

Herein Sir George Savage, as a clinician of unrivalled authority and experience, ranges himself beside the late Dr. Mercier, who, in one of the most valuable of his essays—that on "Causation"—declared repeatedly that what we call *"the"* cause of a disease is that in which, for our purposes, we are most interested. The position is now accepted—and Sir George Savage does not dispute it—that without antecedent syphilis there is no general paralysis of the insane. In consequence, non-syphilitic clinical forms, apparently closely resembling general paralysis of the insane, are differentiated therefrom and are placed in different categories by the application of pathological tests. We therefore consider syphilis as *"the"* cause of general paralysis. Nevertheless, as Sir George Savage points out, and not for the first time, we do not know why some persons, and, indeed, some races of mankind, though sodden with syphilis, should yet escape general paralysis of the insane. Moreover, some persons already infected seem only to become

the victims of "G.P.I." after the intervention of an accidental or incidental factor. Thus, Sir GEORGE SAVAGE has noted many cases in which indications of general paralysis became first noticeable after influenza, contracted during prevalence of that disease; and, like French observers, he has seen groups of cases, serially infected by syphilis, and all, or several of them, developing general paralysis. Some have believed that there are "strains" of spirochætes specially prone to produce general paralysis, and WIEDERSHEIM, 30 or more years ago, in his *Structure of Man* hinted that even such pathological changes as those of tabes may be indirectly due (under the action of the spirochæte, it must now be claimed) to the occurrence of morphological variations in the lumbar cord. Wider approaches are thus opened up to the one goal of all physicians.

Syphilophobia is too often dismissed impatiently. Sir GEORGE SAVAGE devoted some attention to a group of cases wherein the subjects, without having run any real risk of contagion, are yet obsessed by dread of syphilis; and he observed, with truth, that the youthful masturbator and the ascetic celibate alike may become so obsessed—the one during life's evolution, the other during its decay. Classic syphilophobia, on the other hand, follows actual infection or serious risk—more commonly, we think, the former. Indeed, it is probable that the spirochete itself, and not the mere idea, plays a real part in the production of the mentality of the syphilophobe, when the need for diagnosis on a pathological basis is urgent. For if there are some cases which fall within the province of the psycho-analyst, there are others which need intelligent, careful, and conscientious specific treatment by drugs. Moreover, danger point is reached by not a few in this distressing and distressed condition, who, fearing and believing that others know the source of their misery, avoid society, and in extreme instances may seek escape in suicide. But there are also certain cases in which mental, moral, and physical degeneration may ensue, rapidly and progressively, in the years or months closely consequent to infection. Perhaps such are less common than the once were, but they do occur, and a neuronic rather than a vascular pathological basis may be suspected. Possibly these cases can be regarded as analogous to the acute myelitis and nephritis sometimes seen during the late secondary stages of syphilis. The association between what, in a generic sense, may be called "fits" and syphilis, is complex, but its importance is evident. Undoubtedly, "fits" which are truly epileptic are common in children the subject of congenital syphilis, or, what is not quite the same thing, whose parents have been syphilitic; while, in the juvenile form of general paralysis, less familiar to the practitioner than it should be, "fits" of various clinical form occur. But, apart from the irregular "fits," or seizures of classical general paralysis, slight "fits" or faints sometimes happen under stress or strain to those who have been infected; and they are apt to be followed by progressive mental enfeeblement, although the course of classical general paralysis is not pursued. Sir GEORGE SAVAGE, while suspecting local vascular change, in such cases, as the underlying anatomical factor, points out how frequently the diagnosis of general paralysis is wrongly made. The ultimate outcome, however, is certainly bad; feeblemindedness generally results. A valuable and practicable distinction is to be made, moreover, between "general paralysis of the insane" beginning as "locomotor ataxy" and locomotor ataxy accompanied by manifestations of insanity. The recognition of the distinction is important, and difficulty is thereby lessened.

With respect to one important matter, namely the relation between imbecility, idiocy, and parental syphilis, Sir GEORGE SAVAGE accepted the positive results of the Wassermann test, when applied to so many idiots and imbeciles who do not display specific characters of congenital syphilis, as evidence that parental infection has played a part in the production of the mental and physical arrest, even when no further evidence of parental syphilis can be obtained; and, from garnered wisdom he produced clinical evidence which sustains the confidence of the laboratory workers. Yet he insisted, and rightly, that the children of syphilitics, more often than others, apart from all question of syphilis, are the offspring of the less desirable type of parent; while their surroundings, more often than those of others, are apt to be unfavorable or degrading. The note of caution in respect of the attribution of certain effects to a single cause was thus sounded, at the conclusion as well as at the beginning of a vigorous and progressive lecture.—*Lancet*, Nov. 22, 1919.

Tuberculous Meningitis and Lethargic Encephalitis.

THE difficulty in diagnosing between these two conditions is well illustrated by a case of tuberculous meningitis recently reported by Loygue, *Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris*, 1919, 3e série, xliii., 769-775, in a man, aged 27, in whom this diagnosis was discarded, not only during life, but even on naked-eye examination post mortem, which did not appear to contradict the hypothesis of lethargic encephalitis suggested by the patient's symptoms. It was only after microscopical examination, which showed an absence of the lesions characteristic of lethargic encephalitis described by Marie and Trétiakoff in the locus niger and gray nuclei, and the presence of tubercle bacilli that a correct diagnosis was established.

The symptoms presented by the patient closely resembled those of a group of patients previously observed by Loygue, in which the clinical picture, epidemiological character, and macroscopial appearances of the nerve centers post mortem excluded the diagnosis of tuberbulous meningitis, the existence of lethargic encephalitis being confirmed by the fact that three of the five cases recovered. The symptoms in Loygue's patient were torpor and somnolence, disturbance of speech, subfebrile temperature, and rapid and progressive loss of flesh, followed by sphincter disorders, characterized first by incontinence and then by retention of urine, doubtful meningeal symptoms and, towards the close, paresis of the levatores, palpebrarum, ocular convergence, and dysphagia. The absolutely clear cerebro-spinal fluid, its scanty albumin content, and absence of a cellular reaction were in favor of excluding both cerebro-spinal and tuberculous meningitis. Subacute syphilitic meningo-encephalitis was excluded by a negative Wassermann reaction in the blood and cerebro-spinal fluid. The autopsy showed a diffuse congestion of the brain without any obvious lesions on the convexity or base, apart from an edematous and infiltrated appearance of the region between the inferior surface of the cerebellum and the posterior surface of the pons and medulla, and slight adhesions in the fissure of Sylvius. There was no trace of any granulations. Examination of the thoracic and abdominal organs was negative and there was no bony or glandular tuberculous focus. On microscopical examination lesions of meningo-encephalitis were found in the region of the medulla, pons, cerebral peduncles and lower part of the Sylvian fissure, with numerous tubercle bacilli scattered throughout the inflammatory tissue.—(*Lancet*, Nov. 22, 1919.)

Influenza Traced to 412 B. C.

Medical historians, seeking traces of influenza epidemics back through the centuries, have gone back to 412 B. C., when there was an epidemic described by Hippocrates and Livius.

After that time, however, there is a long break in the history of the disease, if it is the same malady which caused the old epidemics, and the next authentic record is dated 1173 A. D. In that year the illness spread over England, Germany and Italy. For fifty years the disease existed only in sporadic form or in mild epidemics, for it is not until 1239 that another severe epidemic occurred. Since that time there have been frequent visitations in every century and recorded in the histories of many nations.

In the chronicles of 1510 we find the first mention of a pandemic, which spread all over Europe. It had its apparent origin in Africa, and the illness of that year took only a mild form.

In 1557 occurred the epidemic in the history of which is found the first mention of the spread of the disease to America. In 1580 there was another pandemic of especial virulence. There were several epidemics in the sixteenth, seventeenth and eighteenth centuries. One of them ceased in 1737, and it was currently reported that the cessation was due to earthquakes and volcanic eruptions.

In the seventeenth century the disease acquired the name by which it is best known, "influenza." The designation is of Italian origin and means simply "influence." The Italians ascribed the disease to the influence of certain malign stars. The French name "la grippe" came into use in 1743, and the names "petitie poste" and "petit courier" in 1762. Later, in 1780, the widespread character of the epidemic gave it the name "general." Ancient and mediæval medical works contain accurate descriptions of the disease, with its symptoms, course and spread.

A curious fact that is recorded in the histories of influenza is its occurrene at sea, on ships and in fleets that had no recent communication with land. In 1782 the English squadron commanded by Admiral Richard Kempenfelt, the sailor who went down with the *Royal George*, had to return from the French coast to England because the influenza disabled so many members of the crews.

Medical history says that the disease never disappears. It exists always, somewhere on earth, but some of the epidemics are far more severe than others. Probably the one that is best remembered by the present generation, before the one that is now scourging the United States and is probably a continuation of 1918, was that of 1889-90, which spread itself all over the globe.

The disease was rife also in 1893-94 and in 1905, and some authorities say that these later visitations were only recrudes-

cences of the epidemic of 1889-90, not new epidemics. Between 1890 and 1891 there was a break which was caused, it is believed, by the summer weather.

The great pandemic of 1889 and the subsequent years was often called "the Russian epidemic," because it began its course in Bokhara, in Asiatic Russia. From Bokhara it spread to Siberia, and then went eastward. It appeared in many cities simultaneously.—(*N. Y. Evening Sun.*)

Principal Causes of Death.

The Census Bureau's annual compilation of mortality statistics for the death registration area in continental United States, which will be issued shortly, shows 1,471,367 deaths as having occurred in 1918, representing a rate of 18.0 per 1,000 population, the highest rate on record in the Census Bureau—due to the influenza pandemic.

INFLUENZA AND PNEUMONIA (ALL FORMS).

Of the total deaths 477,467, or over 32 per cent., were due to influenza and pneumonia (all forms), 380,996 having occurred in the last four months of the year during the influenza pandemic. The rate for influenza and pneumonia (all forms) is 583.2 per 100,000. Influenza caused 244,681 deaths and pneumonia (all forms) 232,786, showing rates of 298.9 and 284.3 per 100,000, respectively, these being the highest rates which have ever appeared for these causes. The rate in 1917 for influenza was 17.2 and for pneumonia (all forms) was 149.8. In fact the difference (416.2 per 100,000 population) between the 1917 and 1918 rates corresponds with the excess mortality which occurred in the last four months of the year from the influenza pandemic.

The next most important causes of death were organic diseases of the heart, tuberculosis (all forms), acute nephritis and Bright's disease, and cancer, which together were responsible for 391,391 deaths, or nearly 27 per cent. of the total number.

The death registration area in 1918 comprised 30 states, the District of Columbia, and 27 registration cities in non-registration states, with a total estimated population of 81,868,104, or 77.8 per cent. of the estimated population of the United States. The deaths from organic diseases of the heart numbered 124,668, or 152.3 per 100,000 population. The death rate from this cause shows a slight decrease as compared with 1917, when it was 153.2 per 100,000. There have been fluctuations from year to year, but in general there has been a marked increase since 1900, the earliest year for which annual mortality statistics were published, when the rate for organic diseases of the heart was 111.2 per 100,000 population.

Tuberculosis in its various forms caused 122,040 deaths, of which 108,365 were due to tuberculosis of the lungs. The death rate from all forms of tuberculosis was 149.1 per 100,000, and from tuberculosis of the lungs, 132.4. The rate from tuberculosis of all forms declined continuously from 200.7 per 100,000 in 1904 to 141.6 in 1916, the decrease amounting to nearly 30 per cent.; but for 1917 and 1918 increases are shown, the 1918 rate being somewhat higher than the rate for 1917, when it was 146.4. Until 1912 more deaths were due to tuberculosis than to any other single cause, but in that year and during the period 1914-1918 the mortality from tuberculosis was less than that from heart diseases.

Bright's disease and acute nephritis caused 79,343 deaths, or 96.9 per 100,000. This is a noticeable decrease as compared with 1917, when the rate was 107.4 per 100,000.

Cancer and other malignant tumors were responsible for 65,340 deaths, of which number 24,783, or nearly 38 per cent., resulted from cancer of the stomach and liver. The rate (79.8) is a decrease from 1917, when it was 81.6. With the exceptions of the years 1906, 1907, 1911, 1917, and 1918, there has been a continuous increase in the death rates from these diseases.

Apoplexy was the cause of 64,904 deaths, or 79.3 per 100,000. This rate, too, declined, having been for 1917, 82.9.

Diarrhea and enteritis caused 59,109 deaths, or 72.2 per 100,000, a decrease from the rate (79.0) for 1917. More than four-fifths of the total deaths charged to these causes in 1918 were of infants under two years of age.

Arterial diseases of various kinds—atheroma, aneurism, etc.—resulted in 19,027 deaths, or 23.2 per 100,000, which rate is somewhat less than that (25.3) for 1917.

Deaths from diabetes numbered 12,927, or 15.8 per 100,000. The rate from this disease increased almost continuously from 9.7 in 1900 to 17.0 in 1916, but since 1916 a slight decrease for each year is apparent. The rate for 1917 was 16.9.

Bronchitis caused 12,783 deaths, or 15.6 per 100,000. This rate is lower than that for any preceding year. The proportional decline from 1900, for which year the bronchitis rate was 45.7, to 1918, amounted to 66 per cent.

The rate for diphtheria is 13.8, representing 11,280 deaths. As compared with 1917, when the rate was 16.5, there is a perceptible decrease.

Typhoid fever resulted in 10,210 deaths, or 12.5 per 100,000. The mortality rate from this cause has shown a remarkable reduction since 1900, when it was 35.9, the proportional decrease amounting to 65 per cent. This highly gratifying decline demonstrates in a striking manner the efficacy of improved sanitation and of the modern method of prevention—the use of the antityphoid vaccine.

Whooping cough and measles together were responsible for 22,534 deaths of adults and children, or 27.6 per 100,000. The rates for these diseases were respectively 16.8 and 10.8 as compared with 10.4 and 14.3 for 1917.

EXTERNAL CAUSES.

Deaths due to external causes of all kinds, accidental, suicidal, and homicidal—numbered 82,349 in 1918, corresponding to a rate of 100.6 per 100,000 population. This is a noticeable decrease, the rate for 1917 being 108.8. In fact, except for automobile and machinery accidents and injuries, all the external causes showed a general decrease in 1918. Deaths from automobile accidents and injuries in 1918 totaled 7,525, or 9.2 per 100,000 population. This rate has risen rapidly from year to year. Deaths resulting from street-car accidents numbered 2,366, corresponding to a rate of 2.9 per 100,000.

Deaths due to injuries by vehicles other than railroad cars, street cars, and automobiles numbered 2,337, or 2.7 per 100,000

The number of suicides reported for 1918 was 9,937, or 12.1 per 100,000, the rate being the lowest shown for any year since 1903.

Congenital Syphilis in the Second Generation.

BRUUSGAARD (*Norsk Mag. for Laegevidenskaben*, April, 1919) contributes a case in which the history of syphilis in three generations is unusually illuminating. The patient in the third generation was a boy, aged 8 years, who, though mentally and physically well developed, presented the following definite signs of congenital syphilis: Numerous linear radiating scars on both lips and on the chin; several large and small scarred patches scattered over the abdomen, particularly numerous in the epigastric region; numerous punched-out scars in the same area of the size of a pea. Further, the Wassermann reaction was positive, and the mother stated that a rash on abdomen and limbs, appearing a month after birth, had been diagnosed by a physician as syphilitic and had been treated with sublimate baths and calomel. The boy had remained perfectly healthy ever since. The mother, who was 28 years old, presented the following signs of syphilis: A positive Wassermann reaction; osteitis and periostitis of the lower third of both tibiae; scarring of the skin over the right tibia, the scars being sharply punched out; a history of ulcers of the right leg nine years earlier; further, she had been treated for a month with mercury and potassium iodide for parenchymatous keratitis shortly before the birth of her son. When only six weeks old she had suffered from a universal rash. This was treated by a medical man with sublimate of mercury, congenital syphilis having been diagnosed.

The grandmother, aged 58, gave the following history: She contracted syphilis from her husband at the age of 31. She had undergone nine pregnancies, including two abortions. Three children died of congenital syphilis a few months after birth, one died at the age of 8 years of marasmus, having exhibited a rash soon after birth, and three survived, of whom the mother, already discussed, was the eldest. Of the other two, one had suffered from some unknown disease of the eyes and was deaf; the other, aged 17, was physically and mentally deficient. The author emphasizes the fact that the mother (in the second generation) suffered from periostitis and parenchymatous keratitis just before and during her pregnancy; for this, he argues, invalidates the objection that hers was a case of reinfection.—A*Brit. Med. Jour.*)

The Thyroid Gland and Vomiting During Pregnancy.

Albeck (*Ugeskrift for Laeger*, June 19th and 26th, 1919) has examined the thyroid glands of 1,581 women a day after confinement, and has correlated his findings with the histories he obtained of vomiting during the last or earlier pregnancies. He found that vomiting during pregnancy was far more common among women with small and hard thyroids than among women with large and soft thyroids. Among 48 multiparae with visibly and palpably enlarged thyroids there was not one with a history of vomiting during pregnancy. Of 193 multiparae with palpably enlarged thyroids, there were 148 without a history of vomiting during pregnancy. Of 79 multiparae whose thyroids were palpable but not abnormally large, there were 50 who had not suffered from vomiting during pregnancy. But of the 151 multiparae whose thyroids were small and barely palpable, all had suffered from vomiting during every pregnancy.—(*Brit. Med. Jour.*)

The Brain and the Vaso-Motor System.

Munro in 1783 enunciated the dictum that the quantity of blood in the cranium is a constant, since the brain substance is incompressible and enclosed in a rigid box. Allowing for variations in the quantity of cerebro-spinal fluid this is true. The first effect of a rise of arterial pressure will be to express the cerebro-spinal fluid from the cranium, and then to compress the cerebral sinuses until the pressure in them rises to that which the brain substance exerts against them. Thus the conditions approximate to those obtaining in a system of rigid tubes. Now the one part of the brain that must keep up its supply of arterial blood is the medulla, for here are the centres that are essential to life. If the blood supplied be too rich in carbon dioxide, the respiratory centre is excited to increase the respiratory rhythm; if the quantity of blood be not adequate, the vaso-motor centre is excited by the slightest degree of cerebral anemia to contract the vessels in the great splanchnic pool, and thus force more blood up to the head. There are two ways in which the blood-supply to a part may be increased—local vaso-dilatation, or vaso-constriction elsewhere. In a rigid box a local relaxation of muscular tone would not be very effective, for it might be overridden easily by the intracranial pressure already existing. To force the blood in by a general rise of blood pressure is to employ a much more powerful mechanism. Thus it is we find that the blood-supply to the brain is mainly controlled by means of the splanchnic area, which, in its turn, is controlled by the vaso-motor centre within the cranium.

This does not mean that there are no vaso-motor nerves in the cerebral vessels—such have been found by Morison and by Gulland—and perfusion of adrenalin will cause a slight contraction of these vessels. But it is safe to assert that they must play an entirely subsidiary part, and that all the vaso-motor effects ordinarily observed can be adequately explained without reference to them.

To avoid cerebral anemia the general blood pressure must be kept at a point above the intracanial pressure. This was clearly proved by Cushing, who adopted the method of varying the intracranial pressure by introducing normal saline solution into the cranial cavity from a pressure bottle. The effect on the general blood pressure was observed by means of a tracing taken from the femoral artery. Until the intracranial pressure exceeded the blood pressure, nothing more than a slight quickening of pulse and respiration occurred, and even this could be avoided if the fluid did not interfere with the sensitive dura. But when that point was reached the blood pressure was at once raised until it was again greater than the intracranial pressure. This was repeated with each increase of intracranial pressure until the blood pressure was forced to a level considerably over 200 mm. of mercury. Then the vaso-motor centre began to show signs of giving way. The splanchnic area could be seen to contract every time the brain was compressed, and to dilate again as the pressure fell. If the vagi were divided before the compression was applied, the blood pressure could be seen to correspond even more closely than before to the degree of intracranial tension, always remaining slightly higher. If both vagi and spinal cord were thus divided, an increase in intracranial tension did not affect the level of the blood pressure in the slightest degree, showing that the adjustment is brought about by constriction of the blood-vessels in the rest of the body. This has a practical bearing on the treatment of cerebral hemorrhage. If we reduce blood pressure—e. g., by venesection or amyl nitrite—to the point at which the reduction will be effective in checking the hemorrhage, we are obviously in danger of reducing it to the point at which the medulla is starved. The absolute necessity of maintaining the blood pressure at a higher level than the intracranial establishes a vicious circle, for the hemorrhage produces a rise of pressure, and the rise of pressure increases the hemorrhage. A rising blood pressure in cerebral hemorrhage is of very grave prognosis, as it shows the bleeding is still continuing.

It may be asked how a cerebral hemorrhage can ever be recovered from. The answer appears to be that the tentorium can shelter the medullary centres from some of the ill-effects of the high intracranial pressure existing above it. The rapidly fatal effect of even small pontine hemorrhage supports the idea, for here no such shelter is possible.

Is there any way of lowering intracranial pressure directly? Then the vaso-motor centre would allow the blood pressure to fall; this would assist the arrest of hemorrhage, and the vicious circle would be broken.

Lumbar puncture will diminish intracranial tension, and has, therefore, been recommended in such cases. It has been thought to be risky, in that it will leave the arteries less supported and therefore more liable to bleed. As soon as the intracranial pressure is reduced the blood pressure will fall, and therefore the liability to hemorrhage is diminished. The blood pressure can be reduced in this way. A man in the diagnosed cerebral hemorrhage had a blood pressure rising from 165 to 210 mm. Lumbar puncture withdrew blood-stained cerebro-spinal fluid. The pressure fell at once to 175, and then more gradually to 135 mm., while consciousness was soon regained.

Cushing's experiments also explain why we so frequently find more than one hemorrhage into the brain substance, if the initial one be at all large. If looked for, small hemorrhages into the pons will be found very commonly in cases of ordinary lenticulostriate hemorrhage. It was formerly a puzzle to decide how these were produced, and whether they occurred simultaneously with, before, or after the large hemorrhage. It is now clear that the large hemorrhage is responsible for driving up the general blood pressure so much that diseased arteries in other parts of the brain are unable to withstand the strain.—(*Lancet.*)

Salvarsan in Gangrene of the Lung.

O. Gross (*Muench. med. Woch.*, August 1st, 1919), who has already published six cases of gangrene of the lung treated with salvarsan (three recoveries, great improvement in two other cases), records a further case to show how dramatically effective salvarsan can be in an otherwise apparently hopeless case. The patient was a soldier, aged 32, who, late in March, developed rigors, pain in the chest and loins, cough and profuse expectoration. The sputum was mucous at first; after some days it became very fetid. On April 7th, the whole of the left lung presented signs of catarrh; it was dull from the base to a point above the middle of the scapula, and over the whole of it râles and other adventitious sounds were audible. The sputum contained numerous elastic fibers, fatty acid crystals and spirochaetes. Succussio Hippocratis was demonstrable when the patient was shaken. The *x* rays showed a large cavity in the left lung, containing fluid, the level of which varied with changes of position. The morning temperature was 37.5° C., the evening temperature 39°.

On April 8th an intravenous injection of 0.45 gram of neo-salvarsan was given. The same dose was repeated next day. The evening temperature rose to 40°, and the chest signs showed little change. But by April 11th the elastic fibers had disappeared from the sputum, and by April 14th the evening temperature did not exceed 38°. The patient felt much better, but the expectoration was still profuse. On April 18th a third injection of 0.45 gram of neo-salvarsan was given. By May 28th the sputum (which had amounted to several hundred cubic centimeters a day) had dwindled to 15 c.m., he felt perfectly well, and the *x* rays failed to show any disease of the lung. The facts that the injections of neo-salvarsan were followed in a few days by the disappearance of spirochaetes, elastic fibers and fetor from the sputum, by a steady fall of the temperature to normal, and by a shrinking of the cavity till it could no longer be demonstrable on *x*-ray examination, were convincing evidence of the efficiency of this treatment in a very severe case of gangrene of the lung.—(*Brit. Med. Jour.*)

Skin Diseases and Radium.

A case of chronic eczema limited to small, but intensely irritable, areas in the axillae, was completely cured by two exposures, with half strength apparatus screened with 1/100 mm. of aluminium, the exposures being for fifteen minutes only. The same result with practically the same treatment, but without screening, was obtained in a case of seborrheic eczema.

In lichen annularis with numerous patches on the extensor aspects of both legs and ankles, relief from itching was obtained within a few days of the first application, and entire disappearance of the patches after four treatments. A patch of lichenification which had been present on the buttock for twenty years, and in which the itching was very severe, received treatment from 80 mg. without a screen for fifteen minutes on three occasions. Definite improvement followed each application, and in two months the lesion had gone.

Two cases of Fordyce's disease (miliary lesion of the mucous membrane of the lips accompanied by itching and burning) are reported in detail. Both had resisted other methods of treatment. All trace of the disease was removed by short exposures to radium screened with 1/100 mm. aluminium only. The first case did not respond when the radium was screened with 1 mm. of silver. Other skin conditions successfully treated were xanthoma palpebrarum, xeroderma pigmentosum, mycosis fungoides, and melanoma.—(*B. M. J.*)

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Osler.

I will make a man more precious than fine gold.—Isaiah xiii., 12.

Reader, do you remember when, as a medical student, you first opened the pages of Osler's Practice? Do you recall how that textbook produced an effect upon you different from that of any other? You felt instinctively that the author was a rare spirit, linked in some magical way with the choicest souls of the past. It was as though some high priest of the art had, for the first time, initiated you into the Eleusinian mysteries, and you felt that your choice of medicine as a profession had been justified. Fine as you had believed your profession to be, you now began, through the kindly offices of Osler, to comprehend its real greatness.

No mere medical textbook ever had the charm of Osler's Practice. It was like discovering Robinson Crusoe as a schoolboy. There could be nothing dull in perusing a book like the Practice, and you are what you are to-day as a practitioner largely because of the effect this book had upon you as an impressionable youth.

If Osler be substituted for Chapman in the following lines of Keats, we shall have our thought masterfully expressed:

Much have I traveled in the realms of gold,
And many goodly states and kingdoms seen;
'Round many Western Islands have I been
Which bards in fealty to Apollo hold.
Oft of one wide expanse had I been told
That deep-browed Homer ruled as his demesne:
Yet did I never breathe its pure serene
Till I heard Chapman speak out loud and bold:
Then felt I like some watcher of the skies
When a new planet swings into his ken;
Or like stout Cortez when with eagle eyes
He stared at the Pacific—and all his men
Looked at each other with a wild surmise—
Silent, upon a peak in Darien.

And then, later, when you had become a practitioner, you beguiled your leisure moments with readings from Osler's non-technical writings, gaining new impressions of this fine intellect and gracious soul, and somehow absorbing enough of his spirit to make yourself a better man.

Benjamin Rush said that physicians were to be judged according to whether or not they left the profession better than they found it. If Osler had never lived our ideals and our technical progress would have been measurably affected, gauged particularly by the mass of the profession rather than by those in the forefront. For it was Osler's influence upon the standards of the rank and file, after all, that counted for most.

A lovable man (we put this first) and a very great physician has been lost to us in the flesh, but his spirit will influence medical men always. We who were permitted personal contact with him will be envied much by posterity, for in the Westminster Abbey of medical fancy he belongs with these in the most sacred corner, under a rose-window of memory which shall be forever lit by the glow of his colleagues' affection.

Prohibition and Puritanism.

The puritanism now expressing itself in our national life in the form of prohibition, not to speak of other weird manifestations, is doubtless traceable to our Anglo-Saxon culture.

Dr. Edward E. Cornwall, among others, has shown that there is still in this country a notable representation of Anglo-Saxon blood, even from the numerical point of view. But the influence of this element upon our institutions and so-called morals is all out of proportion to mere numbers. Our destiny is to an enormous extent controlled by the sheer genius for affairs displayed by the descendants in this country of the Pilgrim Fathers. The very names of our publicists, educators, army and navy officers, jurists, etc., are conclusive enough. The captains of industry themselves hark genealogically not from Palestine, but from Hull, and Plymouth, and London town.

From whence has come the asceticism in politics now coloring (decoloring?) the life of the people if not from the Puritan tradition? Who would be bold enough to argue for a Latin origin?

Why, it may be asked, has not England gone dry before America? We should say that nearness to the Continent has saved England from the graver forms of puritanical fanaticism, and concessions have been made in such ways as the censorship of plays.

The vitality of the Puritan tradition is obvious in the light of such governmental measures as prohibition, and in such things as a belief in the wickedness of the theatre. There is no mystery about the lagging of all forms of art in both America and England. Our prudery, moral and religious hypocrisy, instinct for outward order and decency, and our thickly veiled nastiness are the obscene fruitage of the Puritan heritage.

And England is by no means safe on the score of prohibition. Lloyd George has admitted his intense interest in the American experiment, and confessed the harboring of a like project in his mind. And if the drys are to be believed, their missionaries

in England are succeeding in their drive to an extent that was hardly anticipated.

What prospect is there that this tenacious tradition will ever cease to influence, not superficially, but vitally, American life, with so many of its human elements not drawn from the Anglo-Saxon world and incapable of assimilating a psychology distinctive of a band of pioneers who landed on the coast of New England away back in 1620? How can Tony and Pierre and Pedro and Pat be expected to perform an intellectual feat that would leave them psychological brothers of the *Mayflower* descendants?

How much longer must we bear with a sacred tradition which in no way meets the necessities of this particular age, which retards national progress and solidarity, stifles art, restrains liberty and withholds sympathy from the alien who, naturally enough, clashes with our esoteric principles?

What is the demand for Americanism but an expression of an obscurely realized need for a genuinely democratic creed of life fitted to our cosmopolitan citizenship and not to the seventeenth-century ghosts who persist in haunting us?

It is an open shop that we want, in place of the closed shop of the dominating Anglo-Saxon elements in the population.

It would sometimes seem that through prohibition the gods have revealed the doom of the Republic.

Great Cranks and Their Lesser Brethren.

It is remarkable how crazy one can be and escape commitment and incarceration provided one is a successful man of affairs or a genius.

Economic, political or social importance, on the one hand, and great powers in the domains of art or science, on the other hand, seem to separate sharply certain tolerated personages from the classified lunatics.

Our distinguished friends of queer type not only escape apprehension but they escape diagnosis, whereas any unimportant citizen is sure to be classified, even if not incarcerated.

Thus we may witness a noted *littérateur* traversing the continent and discoursing nebulously on "black magic," the souls of animals, and "odic effluvia," or we are treated to beatific visions of the world of spirits by an aged scientist of real repute.

Yet nobody sees the psychiatric implications in such cases. They are judged generously, where an obscure person would be promptly tagged, and then ignored or oppressed, according to circumstances or whim.

But these great cranks are harmless in any case, it will be urged.

Not by a long shot are they all harmless. Certain paranoid statesmen come into our category who have played a great part in deluging the world with blood and sponsoring fool legislation.

This is a plea for recognition. Let the types be identified and then tolerated if amusing or repudiated if dangerous.

It is also a plea for a square deal. It is the task of our growing liberalism to concern itself with the harsh judgment and discipline meted out to the lesser brethren of distinguished cranks. Otherwise we ourselves cannot boast of rationalism.

If we were as just to the lesser brethren as we are to the great lunatics many of our social shackles would be scrapped.

We say that our obscure cranks cannot adjust themselves to us, but it would be just as true to say that we cannot adjust ourselves to them.

Rationalism obliges no less than nobility.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

List! Gentle Suckers.

The world, they say, has been made safe for democracy, but have the special privileges of our hospital staffs been abrogated, and all reputable and competent practitioners permitted to attend their own patients, in or out of a hospital?

We think not.

All those in favor of a revolution against a state of affairs which has long smelled to heaven will please say aye and take their stations in the bombing planes waiting on the right.

Trombone Therapy in Encephalitis Lethargica.

The *Eagle*, a "family newspaper" published in Brooklyn, tells an interesting story in its issue of February 4 about a soldier at Fort Hamilton who read of the sleeping sickness which had attacked an eleven-year-old Hebrew child and for which she was under treatment at a local hospital. The soldier, it seems, asked permission of the hospital staff to make an attempt to awaken the girl. The permission granted, he arrived at the hospital with a trombone, he being a member of the post band.

The soldier went into the ward where the patient was being cared for and began his attempt by blowing on the trombone. He played Irish tunes, Belgian tunes and a series of popular jazz tunes. The girl shivered at the sound and the soldier put more wind into the instrument. The shivering, however, was the only indication that the patient gave that she knew the soldier and his instrument existed. Winded finally by his excessive efforts the soldier gave up the job and admitted his failure.

We venture the suggestion that much depends in such cases upon the air played. This form of music (?) therapy must be applied with discretion.

Should the sleeper be an Irishman, God Save the King should prove effective. An Englishman or a Frenchman might be considerably agitated by the Watch on the Rhine. A somnolent Red should be given a severe dose of America. Bourgeois and plutocratic sleepers should be treated with songs of The Revolution.

As for the proper instrument, we have no fault to find with the trombone. As a fearsome kind of musical depth-bomb we have a real respect for the trombone. We once lived next door to a novice who was learning to play the trombone—

Which suggests another thought: the playing of the trombone in these encephalitis cases ought to be done by a novice.

With all the conditions which we have outlined met, we feel convinced that the sleeping patients will be easily aroused—and even incited to violence.

In Simple Language at Last.

"An intelligent and pleasing woman was dissatisfied with her town and her husband. She referred to the former as 'a piffling little place,' and said of the latter, 'He gives me no satisfaction.' What was the solution? Recently she spent four months in New York,

and with bright eyes and a pleased smile said, 'You bet I had satisfaction there.' Last winter she visited Los Angeles with the same gratification. Did she have a neurosis? Why should she? There was absolutely no conflict. She was as simple and direct as a child.

"A woman of 34 years complained of daily headache, poor sleep, ready exhaustion, some dyspnea on exertion, poor appetite and constipation. With considerable pains, I ascertained that she, too, was dissatisfied with her husband and with her social and financial position. She could not adjust herself to conditions as they were, and she could not change them. Her ideals and training did not allow the simple means of escape adopted by the other. Instead of deliberately going to New York and California, she subconsciously went to headache and insomnia."—Dr. Hugh T. Patrick, *J. A. M. A.*, Jan. 16, 1920.

Do You Wish to Be Inspected Frequently and Thoroughly?

A supplement to the report of the Elkus committee on the reconstruction of the Government of this State has appeared in the shape of the report of the commission's committee on public health. This has just been sent to Governor Smith. While The Sun has approved in a general way the recommendations of Judge Elkus and his colleagues and particularly those which aim at disentanglement, simplification and economy in the State governmental machine, it cannot say that it finds much that is valuable in the report of the committee on public health. The purpose may be of the best, but the means are too frequently of doubtful wisdom.

The committee recommends that the commission record itself in favor of compulsory health insurance. This is "reform" made in Germany. It was one of the many steps taken by Prussia in that carefully planned scheme by which the State, wearing the mask of benevolence, was to make the individual a mere incident of the Government itself. This is not American. If we are to have compulsory insurance why not compulsory woolen underwear or compulsory walking?

The committee recommends "regular, frequent, thorough, physical examination of all persons in the State." What "frequent" and "thorough" mean is not stated; but if each of 10,000,000 persons was examined twice a year by an expert who devoted only thirty minutes to the scrutiny we should need a staff of 4,000 physicians at heaven knows how many million dollars a year. That is the economic side of the proposal; the personal view of it, the forcible examination of the people, is a matter which we leave, without argument or doubt, to the judgment of the proposed victims of the snooping.

The committee devotes much of its report to the subject of child welfare, always a sympathetic topic. But even here we find efforts to enlarge the State machinery and of course the State expenses: State schools of midwifery, maternity centres, infant welfare stations, "at least one in every city or village of any size"; the appointment of a full time health officer in every school district, the measuring and weighing in schools of every child every month, the provision of a "suitable lunch" for every school child, supervised play, etc.

Now Germany had all these things. Every mother and child in her cities had all the inspections and Prussian coddling that the scientific German mind could devise; official brooding until mother and child had their lives charted for them in prophylactic and dietetic completeness. The bitter thing about it all was that the death rate among German children was higher than among the children of careless old England. And in England, in those towns where the health officials were most active among mothers and children, it was still a marvel that the infant mortality could not be reduced to the point that prevailed among the children in the wildest, least educated parts of Connaught. A great English doctor after studying the paradox for years blandly said that he could not account for it, but there it was.

Science and cleanliness, serums and washed streets and plumbing have done a great deal in the last fifty years to lengthen human life. But curing the individual and coddling him are far different in their results. The parlor experts talk about the inefficiency of mothers and then propose to make them less efficient by having the State (meaning a few thousand more employees) do the mothers' work. Mr. Hoover declares that if parents were educated there would be only half as many undernourished children. Well, then, educate the parents; but let us not reduce the people of this State or of this country to the status of decimal points on index cards. We need less governmental petting and prying; more individualism, more common sense. The State is the creature of the people. It has its own work, but it must not take up the tasks which belong to the individual alone.—*New York Sun*, Dec. 11, 1919.

Diphtheria Carriers.

Costa, Trosier, and Dauvergne (*Rev. d'Hygiène*, October, 1919), point out the great divergence in the various estimates that have been made of the numbers of presumably healthy people who harbor diphtheria bacilli in their throats. It has been accepted by many that one case in three in the general population are such carriers. It is certain that the usual method of detection of diphtheria bacilli—namely, staining reactions and characters of massed (and impure) growth on coagulated serum—cannot be relied upon to differentiate true from false diphtheria bacilli. Hence statistics on the point hitherto have been without much value. The authors claim that by the routine use of their differential medium, followed by cultivation on various sugars, they can always clearly separate diphtheria from diphtheroid organisms.

The number of carriers found depends on the classes of population chosen. In regiments and schools they have found about 2 per cent. of true diphtheria bacilli carriers and about 14 per cent. with diphtheroids; in families about 17 per cent. and 11 per cent. respectively; and in hospitals practically no carriers amongst doctors, nurses, and attendants, whilst on the other hand as high as 50 per cent. in cases of scarlet fever. But taking the figures generally, they have found 3.16 per cent. of the community carrying true diphtheria organisms and 14.55 per cent. carrying diphtheroids. By their method they considerably reduce the number of dangerous subjects. In their examination of convalescents they find that in more than a third of the cases the organisms disappear in a fortnight, and very nearly two-thirds are free by the end of a month. About 13.5 per cent. of cases will have to be kept in hospital for over a month, perhaps even three months. Several cases showed diphtheria bacilli after two negative examinations, and they suggest that cases should give at least three negative tests before being discharged. The authors lay stress on the fact that it is not nearly so important to examine throat swabs from contacts with a case of diphtheria as it is to search for the dangerous carrier who has conveyed the organism to the particular case. Diligent inquiry and bacteriological examination of persons who may have had a tonsillitis will often succeed in tracing the source of infection.—(*Brit. Med. Jour.*)

Hydatid dissemination may be caused by the spontaneous rupture of a fertile cyst; it may also be produced artificially by a medical puncture; finally, it may be brought about just as artificially by the surgeon in the course of some intervention.

Correspondence

Anent "Sleeping Sickness."

To the Editor of THE MEDICAL TIMES:

It is not quite in accord with facts to say that sleeping sickness is with us "again"; we have never been without an occasional case. An increase in the number of cases reported has caused justifiable comment; hysterical newspaper comments have given rise to statements that are not justifiable. The cases reported cover a considerable part of western Europe; cases in the eastern part of the United States have been reported.

The supposition that the disease was spread by soldiers who have returned from Africa is both natural and plausible. The African form of the disease is clearly a case of *trypanosomyasis*, due not to a bacillus or a bacterium, but to an annual parasite, a *haematozoon*. Incidentally the names both of the disease and the parasite are confessions of ignorance. The carrier of the disease, the tse-tse fly, abounds in many circumscribed localities in the moist regions of tropical Africa. Like the biting stable-fly, the mouth parts of the proboscic of the tse-tse fly are armed with cutting stilets. The parasite is conveyed into the blood of cattle and of human beings through the sucking apparatus connected with the proboscis. The prognosis of African sleeping sickness is hardly a matter for discussion by a layman; it is well understood by the medical profession. The bio-chemical changes resulting from the growth and transformation of the parasite are not perfectly known, nor are they clearly understood. It is interesting to note that treatment with arsenio-compounds of the nature of salvarsans have proved highly effective. In other words bio-chemical treatment is the most successful.

It also is interesting to note that the young of the tse-tse fly are viviparous and not oviparous as to production. During the life of the female a mature larva is deposited every few days. The larva burrows into soft mud and its transformations occur there. The sucking of the blood of an animal is necessary for the development of the larva and the animal parasite seems to be a harmless intruder. This parasite is present in only two or three species of the tse-tse fly.

But sleeping sickness of the kind reported in Europe and America seems to have neither connection nor relation to the disease caused by the tse-tse fly. Nor is there the slightest evidence that returning soldiers have been carriers of the disease. Physicians in the London hospitals who have had experience with the African disease find no similarity between the African disease and the ailment now in the hospitals of London, except the extreme lethargy which is a symptom of both. According to the head physician of one great hospital it is a disease "More like infantile paralysis; it attacks the brain and spine. A haziness is followed by physical and mental relaxation which is impossible to combat, and which finally brings on almost perpetual sleep."

J. W. REDWAY.

Meteorological Laboratory, Mount Vernon, N. Y.

Botulinus Poison Never Present in Sound Food.

Botulinus poisoning, which recently killed six in one family in New York, is caused by eating spoiled food infected with the bacillus botulinus, say the officials of the Bureau of Chemistry, United States Department of Agriculture, who have investigated this and other poisoning cases in connection with the enforcement of the Food and Drugs Act. In the New York case death was caused by botulinus poison in ripe olives. The olives remaining in the bottle in this case had an offensive odor. The same condition was found in the food in other cases investigated by the department. All spoiled food does not contain this poison, but any spoiled food, even though the spoilage may be slight, may contain it, and for this reason, say the officials, all food showing even the slightest unnatural odor, unnatural color, swelling of the container, signs of gas, or any evidence of decomposition whatever, should be discarded.

The Department of Agriculture has used every possible effort and gone to the limit of its legal authority to remove all dangerous foods from the market by seizure under the Foods and Drugs Act, say the officials. Each time when botulinus poisoning has occurred food inspectors have traced through the channels of commerce the batch from which the poisonous food came and have used all measures under the law to remove it from the market. Samples from all other brands put out by the packer have been examined. Since the law authorizes seizure in such cases only when the foods are actually found to be decomposed or to contain poisonous ingredients, since only an occasional package in millions is infected with bacillus botulinus, and since it is physically possible to open and examine but a comparatively few of the millions of cans entering interstate commerce, it is beyond the power of the authorities to protect the public completely. For this reason they emphasize the necessity for scrupulous care on the part of persons opening and serving foods to discard anything which is spoiled. In products not obviously spoiled, if there is doubt in the recognition of the odor proper to the product, thorough cooking will remove the possibility of danger from botulism. If spoilage is apparent, destruction is recommended by the specialists.

Nobody knows just how the bacillus botulinus gets into any particular food. It has been found in articles put up in the home by the careful housewife and in goods packed in commercial establishments. It may be present in a few packages only of any lot. There is no method, the officials say, by which the packers or home canners can assure themselves by casual examination before canning that the product does not contain the bacillus botulinus.

If the food were in all cases properly sterilized and perfectly sealed the development of the poison would be impossible, but no method of preserving food has yet been found, the specialists say, that eliminates the occasional spoiled package. Failure to sterilize may not become apparent for weeks or even months after the canning of the article. If signs of spoilage have appeared when the can is opened, it is clear warning that the product is no longer edible. There is no greater probability of botulinus poisoning in olives than in many other food products either commercial or domestic. Until this year it has been more commonly found in string beans, asparagus and the like. It was originally found in sausage. It has been found in cheese; it is present sometimes in stock food, such as moldy hay and other kinds of spoiled forage, but it has never been found in the department investigations in any kind of food that was not spoiled.

Herpes in Cerebro-Spinal Fever.

Herpes is a well-recognized event in cerebro-spinal fever and may be considered under the two heads of (1) ordinary febrile herpes labialis, and (2) herpes of the zoster type.

Herpes libialis appears to occur with varying frequency in different epidemics, and the relative incidence of herpes libialis and of other cutaneous eruptions shows similar fluctuations; from a review of the literature up to 1898, Councilman, Mallory and Wright concluded that herpes is far commoner than any other eruption. Netter found that herpes occurred in a third of his cases, and was more frequent than purpura, and Sainton states that it was present in two-thirds of his cases. On the other hand, Stillé says that in the Massachusetts epidemic herpes was infrequent, and much less often present than cutaneous rashes; in 502 naval cases there were 117, or 23 per cent., with herpes, and 296, or 59 per cent., with rashes.

Labial herpes appears later than the initial rash, and usually on the fourth day of the disease, but it may occur earlier, on the second day, or be postponed until later. In rare instances it may recur during continued fever, with a recrudescence of symptoms, or with the appearance of some complication. It is unusual in children, and exceptional in infants.

The causation of ordinary herpes labialis is undecided; it is not generally thought to be associated with any lesion of the central nervous system, though Howard, from histological examination of the Gasserian and other ganglia, considers that the herpes of pneumonia and cerebro-spinal fever has a similar anatomical basis to that of herpes zoster. Though frequently looked for, meningococci have very seldom been isolated from the vesicles of labial herpes. It has been suggested that the vesicles are due to meningococci, and their situation determined by inflammation of the Gasserian ganglion. As herpes labialis has been seen in persons reacting vigorously to prophylactic antimeningococcic vaccines it appears reasonable to refer it to the local action of toxins rather than of bacteria in the skin.

Herpes of the zoster type occurs in cerebro-spinal fever, but much less often than labial herpes. The two forms may be present at the same time; thus labial herpes and herpes of the external ear due to inflammation of the geniculate ganglion of the facial nerve, or labial herpes and herpes of the neck may be combined.—(*Brit. Med. Jour.*, No. 3044, 1919.)

Look Out for the Cervical Rib.

A "cervical rib" may cause pain in the arm which may be at first regarded as brachial neuritis. But in cervical rib the pain is often chiefly in the distribution of the first dorsal nerve root in the arm, often sensation is diminished in this area, and the small muscles of the hand become wasted. The existence of a cervical rib is revealed by *x*-ray examination.